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TRANSACTIONS

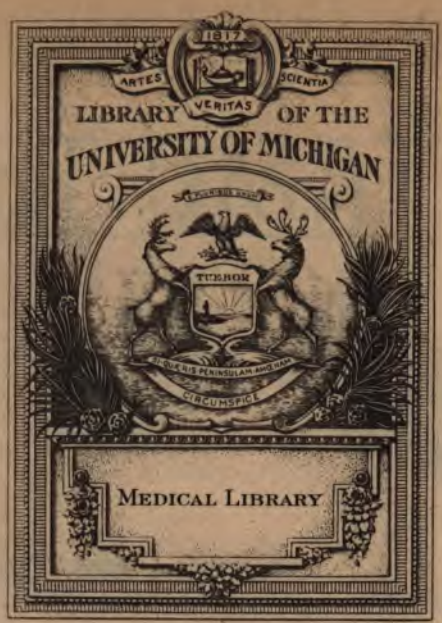
OF THE

MINNESOTA

State Medical Society

1885

ST. PAUL:
H. M. SMYTH PRINTING CO.
1885.



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TRANSACTIONS

— OF THE —

MINNESOTA

State Medical Society

1885.

ST. PAUL:
H. M. SMYTH PRINTING COMPANY.
1885.

OFFICERS OF THE SOCIETY

PRESIDENT:

E. J. DAVIS, M. D.

FIRST VICE-PRESIDENT:

H. H. KIMBALL, M. D.

SECOND VICE-PRESIDENT:

KEE WAKEFIELD, M. D.

THIRD VICE-PRESIDENT:

W. D. FLINN, M. D.

TREASURER:

S. B. SHEARDOWN, M. D.

RECORDING SECRETARY:

C. B. WITHERLE, M. D.

CORRESPONDING SECRETARY:

W. L. BEEBE, M. D.

CENSORS.

For Three Years—A. H. LINDLEY, M. D.
W. W. MAYO, M. D.

For Two Years— J. C. RHODES, M. D.
V. SMITH, M. D.

For One Year— R. S. McMURDY, M. D.
A. W. STINCHFIELD, M. D.

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PROCEEDINGS

— OF THE —

SEVENTEENTH ANNUAL MEETING

— OF THE —

Minnesota State Medical Society

The Society met at 10 A.M., Thursday, June 18th, 1885, at the State Capitol in St. Paul.

The session was opened with prayer by the Rev. R. F. Maclaren.

The address of welcome was delivered by Dr. Day of St. Paul.

The committee on new members was appointed by the chair, as follows: Drs. E. J. Abbott, R. L. Moore, Philo E. Jones.

The following candidates were reported qualified for membership, and, on motion, were elected members of the Society:

Alcinda Auten.....St. Paul.
J. F. Baker.....St. Paul.
Carl Bendeke.....Minneapolis.
E. Bolink.....Henderson.
A. R. Brackett.....Minneapolis.
W. H. Carruthers.....St. Paul.
H. E. Conley.....Waterville.

E. W. Cross.....Rochester.
Le Grand N. Denslow.....St. Paul.
J. W. Donnell.....St. Paul.
W. T. Duncan.....Fergus Falls.
P. J. Dwyer.....St. Paul.
T. H. Everts.....Minneapolis.
E. M. Fairbanks.....Austin.
O. A. Fliesburg.....Stillwater.
E. S. Frost.....Willmar.
W. A. Griffin.....Carver.
W. E. Hallowell.....St. Paul.
P. Sprague Haskell.....St. Paul.
F. N. Hunt.....Fairmont.
T. H. Johnson.....St. Paul.
E. D. Keyes.....Winona.
J. T. Kietsinger.....Minneapolis.
G. E. Maloy.....Glencoe.
F. H. Morton.....Redwood Falls.
J. F. Mulholland.....Jordan.
Elizabeth S. E. Norred.....Minneapolis.
W. B. Pineo.....Minneapolis.
A. C. Lamothe Ramsay.....St. Cloud.
G. A. Renz.....St. Paul.
Edson Rhodes.....Winona.
W. Richeson.....St. Paul.
Park Ritchie.....St. Paul.
W. B. Robb.....St. Paul.
Carrie S. Rogers.....Minneapolis.
Augusta L. Rosenthal.....Winona.
J. D. Simpson.....Henderson.
W. M. Sweeny.....Red Wing.
R. C. Teschan.....Winona.
William Wakefield.....Lake Benton.
H. S. Walrath.....St. Paul.
Paul West.....Little Falls.

The Committee on the Revision of Working Methods, appointed at the last meeting, made a report recommending the following amendments to the Constitution of the Society.

Strike out of Art. VII., Sec. 1, "Committees on Epidemics, Climatology and Hygiene, on Practical Medicine, on Surgery, and on Obstetrics," and make Committee on Necrology the fourth Standing Committee.

Add Secs. 4, 5 and 6 to Art. VII., as follows, viz.:

SECTION 4.

The professional work of the Society shall be divided into the departments of—

Practical Medicine,
Practical Surgery,
Obstetrics,
Diseases of Women (Gynæcology),
Diseases of Children,
Epidemics, Climatology and State Medicine,
Nervous Diseases,
Materia Medica,
Ophthalmology and Otology,
Medical Education,
Medical Jurisprudence,
Pathology,
Orthopœdic Surgery.

These departments shall each have a chairman, who shall be chosen in the manner specified in Section 5.

SECTION 5.

During the second session of the first day of each annual meeting of the Society, the President shall appoint a Committee on Nominations, consisting of eleven members, two of whom shall represent the city of Saint Paul, two the city of Minneapolis, and seven the other portions of the State, which Committee shall meet at its earliest convenience, and proceed to nominate a chairman for each of the departments specified in Section 4, who must be chosen from members present, or who have agreed to

serve; and the report of said Committee shall be made during the first session of the meeting, on the second day, and confirmed, amended or rejected, by a vote of a majority of the members present.

SECTION 6.

The Chairman of each department shall have sole control of his department; and all reports and papers pertaining to that department must be submitted to him thirty days previous to the next annual meeting; and within twenty days of such meeting the chairmen of the departments shall forward to the Chairman of the Executive Committee a list of all such reports and papers, giving subjects and the names and postoffice address of their authors; and within ten days before the annual meeting the Chairman of the Executive Committee shall cause a printed programme, containing said list of reports and papers, arranged in the order of their precedence, conforming to the prescribed order of business as nearly as may be, to be sent to each member of the Society.

In the By-Laws, Art. III., Sec. 6, substitute Report of Executive Committee for "Report of Committee on Arrangements," and Reports of Chairmen of Departments for "Reports of Standing Committees."

DANIEL LEASURE,
F. A. DUNSMOOR,
C. H. HUNTER,
Committee.

The above report was unanimously adopted, and consequently becomes a part of the Constitution, according to Art. IX.

The treasurer presented his report as follows:

S. B. SHEARDOWN,

In Acct. with Minnesota State Medical Society.

		DR.
To balance on hand from 1884, - - -		$334 11
amt. received for Initiations and Certificates,		65 00
" " Annual Dues, 1884,		226 00
" " Delinquent "		104 00
net am't rec'd for advertising per Pub. Com.,		109 25
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By H. M. Smyth Printing Company,	$265 00	
C. H. Boardman, - -	100 00	
Gazette Printing Co.. - -	15 25	
Wm. Davis, Postage and Printing,	4 85	
Wm. Jay Whipple, - - -	4 25	
C. H. Boardman, - -	2 00	
Janitor, - - - - -	5 00	
S. B. Sheardown, - -	12 00	
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S. B. SHEARDOWN, Treasurer.

The report, on motion, was accepted.

Communications in regard to the subject of medical education were received from the American Medical Association and the New Jersey State Medical Society. These were referred to a committee of three, Drs. Tefft, Mayo and Kimball.

The President, Dr. McGaughey, then delivered the annual address.

Dr. Hutton of Fergus Falls read a paper on diphtheria.

THURSDAY AFTERNOON.

In accordance with the resolutions embodied in the report of the Committee on Working Methods, the President appointed the following gentlemen as members of a Committee on Nominations: Drs. Leasure, Boardman, Dunsmoor, Kimball, V. Smith, Stinchfield, Chilton, T. W. Sheardown, Millard, Beebe and Guernon.

The Report on Practical Medicine was presented by Dr. Brooks. Papers were read by Drs. Young, Heitz, Coon, and R. L. Moore.

By invitation of the Society, Dr. Babcock of Chicago read a paper on Atheroma.

The Report of the Committee on Surgery was read by title and referred to the Committee on Publication.

Dr. Wedge exhibited a patient with spinal caries and requested Dr. Bauer of St. Louis to demonstrate to the Society his plan of treatment. Dr. Bauer believed that the plastic jacket is useless during the progress of the disease. Absolute rest, the *sine qua non*, can only be secured by maintenance of the horizontal position. At intervals the patient should be anæsthetized and the spine straightened by direct pressure of the hand upon the protruding vertebræ.

The report of the Committee on Obstetrics was read by the Chairman, Dr. Lizzie R. Wass, and referred for publication.

The report of the Committee on Epidemiology, Hygiene and Climatology was made by the Chairman, Dr. Conley, and referred for publication.

The Committee on Nominations of Chairmen of Departments reported the following candidates, who were elected by vote of the Society:

Practical Medicine—A. E. Senkler, St. Paul.
Surgery—Franklin Staples, Winona.
Obstetrics—Wm. Davis, St. Paul.

Epidemics, Hygiene and Climatology—Charles Berry, New Ulm.

Diseases of Children—W. G. Mayo, Rochester.

Diseases of Women—George F. French, Minneapolis.

Orthopædic Surgery—G. H. Dunn, Minneapolis.

Nervous Diseases—R. O. Beard, Minneapolis.

Materia Medica—A. F. Ritchie, Duluth.

Opthalmology and Otology—C. Williams, St. Paul.

Medical Education—C. N. Hewitt, Red Wing.

Medical Jurisprudence—C. H. Boardman, St. Paul.

Pathology—Charles H. Hunter, Minneapolis.

The Committee on Nominations also recommended the appointment of the following gentlemen as a Committee on Legislation, to represent the Society at the next session of the State Legislature:

Dr. Craig of Janesville.
Dr. Senkler of St. Paul.
Dr. Hunter of Minneapolis.
Dr. Hand of St. Paul.
Dr. Brown of Minneapolis.
Dr. Berry of New Ulm.
Dr. McComb of Duluth.

On motion, the above Committee on Legislation was elected by the Society.

Thursday evening a banquet was given to the Society by the Ramsey County Medical Society, at the Metropolitan Hotel.

FRIDAY MORNING.

[illegible] opened with prayer by the Rev. [illegible]

[illegible] nted by the Committee on [illegible] ustion," by Dr. Riggs; "T[illegible] the Cause of Certain

Neuroses," by Dr. Denslow; "Functional Nervous Affections of the Superior Respiratory Tract," by Dr. F. R. Burnham.

It was moved and adopted that all subsequent reports of sections be read by title and referred to Publication Committee.

The Special Committee on Communications from Medical Societies reported that the communications from the American Medical Association and from the New Jersey State Medical Association be referred to the Committee on Legislation. On motion, Drs. Boothby of Wisconsin and Hamilton of Illinois, were invited to sit with the Committee.

The Reports on Gynæcology and Materia Medica were read by title and referred.

It was moved and adopted that Drs. F. R. Smith and W. Baldwin be transferred to the honorary list.

Moved and adopted that the Constitution and By-Laws of the Society, with changes since last publication, be republished.

The Committees on Diseases of Children, Ophthalmology and Otology and on Medical Education reported papers by title, which were referred to the Publication Committee.

It was moved and adopted that the President appoint a Committee of three on Necrology, to report on or before August 1st. Drs. Lindley, Howes and W. W. Mayo were appointed.

Dr. Stone offered the following resolution:

"That it is the sense of the Society that all night-soil and garbage should be disposed of by combustion."

It was moved and adopted that Dr. Stone's resolution be considered immediately after the election of officers.

Dr. Ramsey, on invitation of the Society, read a paper on "Laparotomy for Gunshot Wounds." The paper included the report of a case.

Dr. Dunsmoor protested against the custom of reading papers by title, and moved that the Society be divided into two sections for deliberation, one on Surgery and one on Medicine. Dr. Beard moved an amendment that the time of session be extended to three days. The amendment was not seconded. After discussion, Dr. Dunsmoor's motion was adopted.

FRIDAY AFTERNOON.

Dr. Dunsmoor moved a vote of thanks to the Ramsey County Medical Society for its cordial entertainment. The motion was seconded by Dr. Hunter and adopted.

The election of officers for the ensuing year now took place. The following nominations were made, and the Secretary was directed to cast the vote of the Society in each case:

President—Dr. E. J. Davis of Mankato.

First Vice-President—Dr. H. H. Kimball of Minneapolis.

Second Vice-President—Dr. Kee Wakefield of Hutchinson.

Third Vice-President—Dr. W. D. Flinn of Redwood Falls.

Treasurer—Dr. S. B. Sheardown of Winona.

Recording Secretary—Dr. C. B. Witherle of St. Paul.

Corresponding Secretary—Dr. W. L. Beebe of St. Cloud.

Censors for three years—Dr. W. W. Mayo of Rochester and Dr. A. H. Lindley of Minneapolis.

Dr. Boardman had declined to serve longer as Secretary.

Dr. S. B. Sheardown moved the thanks of the Society to Dr. Boardman for his long and efficient service. Adopted by a rising vote.

Dr. S. B. Sheardown moved that the office of Record-

ing Secretary be made permanent, and that a salary of $100 per annum be paid to that officer. Laid over till next year.

Dr. Dunsmoor moved that the Treasurer be directed to pay the incoming Secretary $100. Adopted.

Dr. Evans moved that the Treasurer be directed to pay the retiring Secretary $100. Adopted.

It was moved and adopted that the next meeting of the Society be held at Minneapolis, beginning on the third Thursday of June, 1886.

Drs. Evans and Stinchfield were appointed to conduct the President-elect to the chair. Dr. Davis expressed his thanks for the honor conferred upon him, in feeling remarks.

Dr. Stone's resolution was then taken up. Dr. C. N. Hewitt addressed the Society, inveighing against the common practice of dumping in running streams. He believed that garbage and night-soil should be used for fertilizing purposes, whenever possible. As amendments to Dr. Stone's resolution he moved the following:

"That all excreta of men and animals should be removed from the neighborhood of inhabited buildings promptly and thoroughly."

"That this work should be the duty of local boards of health, and that a scavenging system should be at their command."

"That, when practicable, the proper disposal of garbage and night-soil is the natural one of removal to arable ground under cultivation."

The amendments were accepted, after discussion, and the amended resolution was adopted.

The Society then adjourned.

The following appointments have been made by the President since the meeting of the Society:

Executive Committee.

R. S. McMurdy, Chairman.

F. A. Dunsmoor, T. F. Quimby.

Committee on Finance.

D. W. Hand, Chairman.

W. R. McMahon, W. M. Stratton.
A. O. Gilman, F. A. Blackmer.

Committee on Necrology.

O. J. Evans, Chairman.

C. Hill, C. O. Cooley.
W. H. Pratt, D. B. Collins.

Committee on Publication.

Daniel Leasure, Chairman.

G. A. Hewitt, S. B. Sheardown.
Ignatius Donnelly, Jr., C. B. Witherle.

Essayist—B. J. Merrill.
Alternate—A. G. Stoddard.

Delegates to American Medical Association:

A. W. Abbott,
C. E. Atkinson,
Otis Ayer,
R. D. Barber,
Charles Berry,
J. G. Brigham,
A. T. Conley,
H. L. Coon,
J. A. Dubois,
F. A. Dunsmoor,
J. E. Finch,
G. F. French.
Wm. Frisbie,
D. W. Hand,
C. N. Hewitt,
W. M. Hollister,
J. R. Howes,
M. V. Hunt,
Talbot Jones,
W. L. Lincoln,
W. W. Mayo,
S. C. McCormick,
J. B. McGaughey,
P. H. Millard,
F. H. Milligan,
J. H. Murphy,
E. Phillips,
C. G. Slagle,
A. J. Stone,
Franklin Staples,
N. S. Tefft,
L. R. Wass,
A. C. Wedge,
C. A. Wheaton.

ADDRESS OF WELCOME.

By DAVID DAY, M. D.

Ladies and Gentlemen of the State Medical Society:

To me is assigned the duty of welcoming you to the City of St. Paul on this your annual convocation. If my greeting could be made as eloquent as the hearts of those for whom I speak are warm, it would please you to hear what I have to say upon this occasion. No pleasanter duty could be laid upon me than to speak for the medical profession of this city or its people, and in their name and in their behalf extend to you the hand of welcome greeting and good fellowship.

In welcoming you gentlemen to the City of St. Paul, I must of necessity speak of the city herself. In ancient times, and in fact up to a time within the memory of living men, the building of a city was the work of centuries, and generation after generation toiled in the completion of the appurtenances needed for the use and benefit of civilization. Now all is done within a lifetime. Then the antiquarian historian puzzled his brain over its past to find who built this church or that public or private edifice. Now, if you would know who constructed this city with all its vast and complex appurtenances, its railroads, its streets, its water works, its sewers, its electric lights, its gas lights, its public and private structures, you need not go to the historian; ask any of these venerable doctors, for whom I speak; they can tell you.

As we behold these evidences of rapid development in our material life, we become conscious that we are living

in a new era, when generations of the old life are curdled into a single day. Amid all this marvelous progress with material things, the question naturally occurs: Has the medical profession kept abreast of the developments surrounding it? Unquestionably it has. For while we admire the progress made in electricity, steam engineering and the wonderful adaptations of mechanical means to produce these results, we stand in awe before a man who injects into his own veins the deadly cholera microbe, in the hope that he may thus add another to the many boons his profession has given to his fellow man.

Medical science deals exclusively with human life, and is of necessity conservative. But it is no laggard. In the march of progress to final and immutable truth, it carries its torch well to the front. With its microscope, and all its appliances of science, in stands with a trained army and calcium light at the very door of the mystery of life; and I hazard nothing in saying that the time is not far distant when the last secret of nature shall be explained and mankind will reach his proper destiny.

Gentlemen, in conclusion, I can truly say that no man has deserved so little and received so much at the hands of the medical profession as I have. Whilst I voluntarily abandoned the labors and rewards of the profession more than a quarter of a century ago, and ceased to follow the life for which I had endeavored to qualify myself, my laboring brethren have surrounded me with that good will and fellowship known only to educated gentlemen.

PRESIDENT'S ADDRESS.

Ladies and Gentlemen of the Minnesota State Medical Society:

An unwritten law appears to have been enacted which requires the President of this Society, at each annual meeting, to address you upon matters of interest to our profession. With the full assurance that you will be made acquainted with no newly discovered facts, given the results of no valuable observations or even furnished an entertaining discourse, I will attempt to comply with the provisions of this act.

The medical profession of the present day, to an extent never before equalled in the history of the world, appears to be united in well directed efforts to acquire such knowledge from every conceivable source as will lead to a better understanding of the causes and nature of morbid action, and furnish the best means for the prevention and cure of disease. The individual, the local society, State and National Societies, and the International Medical Congresses, all have the same ultimate object in view. All encounter difficulties of the same nature, meet with serious disappointments and achieve some triumphs; but the work goes on, attended with results which, notwithstanding their imperfections, convince the most skeptical that real advancement has been made.

On such occasions as this, it may be customary to chronicle the successes which have been attained through the efforts of the medical profession, and to bestow honor and praise upon those who have contributed to the means

by which successes have been secured. No fault should be found with this course so long as proper bounds are respected, as they ever will be if the numerous failures receive even a small part of the consideration allotted to real or alleged triumphs. It is self-evident that the medical science and skill of the present day, though greatly superior to that of any previous time, are still unable to meet many of the demands of the age.

In preventive medicine gratifying results have been observed in numerous instances, but, if we except smallpox, there is no serious disorder of which it can truly be said that we possess the power to entirely prevent its appearance, or even to restrict it within prescribed limits when it does appear. Yet we see not infrequently such affections as typhoid fever, scarlet fever and diphtheria assigned to the list of "preventable diseases;" affections which are often if not usually of obscure or unknown origin, and are developed under diverse circumstances and in the most varied environments.

The labors of the sanitarian have been earnest, faithful and intelligent, and have been productive of much that is encouraging and beneficial; but the fact remains that these diseases, even in the best regulated communities, count their victims by scores and hundreds annually. The conclusion seems inevitable that the claim that these affections, in our present state of ignorence, are absolutely preventable, may be regarded as mere assumption of knowledge, the tendency of which is ever to obstruct rather than to promote actual progress.

The treatment of disease has undergone many changes within the last century, and there is reason to believe that these changes have brought into use better methods than those formerly adopted. Heroic medicine has been supplanted by the rational and the conservative. However great the improvement has been, it is apparent that

it fails to satisfy even to a moderate degree the wishes of the profession or the needs of the public.

The contemplation of these facts, though not altogether pleasant, should be profitable. Wants are seldom supplied until they are realized if not acknowledged. The requirements of the present and the future, rather than the achievements of the past, should act as stimulants to progress.

We may with advantage devote a few minutes to the examination or rather enumeration of some of the needs of the medical profession at the present time. Of primary importance in this list we should place the advancement of sanitary science or preventive medicine. Notwithstanding the work accomplished, this science may be said to be in its infancy, not having fairly reached the state of active childhood. In order that satisfactory progress may be made, a fuller comprehension of the causes of disease must be acquired. The truth or falsity of many existing theories must be determined. Facts must be discovered, deductions made and subjected to the crucial tests of time and experiment.

In the departments of therapeutics and materia medica we are constantly reminded of our limited resources. Our knowledge of the virtues of various substances of the organic and inorganic world and of the influences of the forces of nature in subduing disease is restricted within comparatively narrow confines. The list of substances existing in nature whose effects upon the human system or upon diseased action is unknown or but partially known, is formidable to contemplate. The possible products of the laboratory of the chemist, substances of whose properties we are entirely ignorant, cannot be estimated.

Intelligent and thorough investigations of these matters should be made, and, in order that such work may be ac-

it fails to satisfy says one, "tends to decay." If this be the profession as then one would be bold enough to assert

The contemplation clearly owing to errors that have been pleasant, should the system of civilization. Many of these plied until they are cognized not only by the medical pro- requirements of the intelligent members of society, yet no the achievements and efforts have been made to eliminate progress.

We may note the infant mortality in this country, if not examination and alarm, is a matter which from its magni- the medical should attract the serious attention of the san- importance in term should include every true physician. of sanitary proportion of cases the mortality is due to the ing the most acquired disease of parents, which renders in its inherent of reproducing healthy children. As a childhood attempt has been made to dissuade individuals made, dissuaded from entering into relations by which must be enabled to transmit their imperfections to an theoretically offspring which is doomed to an early death, or deliberately destined to a life of suffering. This sub- and involving, as it does, problems which have been but discussed, much less solved, furnishes abundant ma- for the thoughtful consideration of the physician and philanthropist. We may ignore these problems. Our descendants will be forced to attempt their solution.

Errors in our system of education affect unfavorably the mental and physical health of a not inconsiderable part of our population.

Our public schools, which are justly a source of pride every American, and one of the principal safeguards to our government, possess elements of danger which we, as medical advisors, cannot afford to neglect. In conse- quence largely of the efforts of sanitarians, many of the imperfections in the construction, heating and ventilation of school buildings have been remedied. The atmos-

phere of the average modern school-room will now compare favorably with that of the dwellings of a majority of the pupils. No serious attempt, however, has been made to correct the abuses arising from an unyielding system of grading in these schools, the object of which appears to be to induce all the pupils in attendance to perform a certain amount of mental labor and accomplish fixed results in a given period of time. Under this abominable system the constitution, mental ability and physical health of the pupil receives but little if any consideration. Natural pride, hope of reward and fear of punishment contribute toward attaining the desired object. Headaches and various disturbances of the nervous system in young children may often be traced to ill-advised attempts upon the part of the child to comply with these unwise regulations. A little flexibility should be introduced into this plan of grading by which many of its evils could be corrected without materially impairing its usefulness.

There would be quite as much reason in requiring horses of all grades and breeds to furnish equal draught power or to exhibit the same degree of speed as there is in exacting a specific amount of mental work from children of various tastes and of all degrees of mental and physical strength.

These matters and many others of vital importance should attract the serious attention of the profession and of the public until the proper remedies have been discovered and applied.

The existence of Asiatic cholera in various parts of the world and its possible or probable appearance in the near future in our own country excite deep interest in all classes of the community. It is creditable to the medical profession that largely through its instrumentality the most efficient known means have been adopted to prevent the introduction of this scourge. Measures have also been de-

vised to limit it by quarantine and to provide for the care of those who may become subject to the disease should it appear.

The Ferran method of inoculation, by which it is believed cholera may be prevented or mitigated, is now being submitted to tests upon an extensive scale, which will, within reasonable time, demonstrate the virtue or uselessness of the procedure.

The action of the American Medical Association at its last meeting in New Orleans, in adopting the report of the "special committee on explanatory declarations concerning the proper interpretation of the Code of Ethics," seems worthy of some notice.

This report, after declaring "that it constitutes a voluntary disconnection or withdrawal from the medical profession proper to assume a name indicating to the public a sectarian or exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession," concludes as follows:

"*Resolved*, That there is no provision in the National Code of Medical Ethics in anywise inconsistent with the broadest dictates of humanity, and the article of the Code which relates to consultations cannot be correctly interpreted as interdicting under any circumstances the rendering of professional services wherever there is a pressing or immediate need of them. On the contrary, to meet the emergencies occasioned by disease or accident, and to give a helping hand to the distressed without unnecessary delay is a duty fully enjoined upon every member of the profession both by the letter and the spirit of the entire Code.

"But no such emergencies or circumstances can make it necessary or proper to enter into formal professional consultations with those who have voluntarily disconnected themselves from the regular medical profession in the manner indicated by the preceding resolution."

This interpretation appears to be broad enough to fully satisfy all parties concerned in this matter. The terms employed admit of the most liberal construction. The practitioner must determine for himself, when "emergencies occasioned by disease or accident" exist, and, having made his decision in favor of such existence, it becomes his duty to respond and render assistance.

There is nothing to prevent consultation with other professional attendants, however irregular they may be, provided said consultations possess some elements of informality.

Such an interpretation yields, possibly somewhat covertly, all for which the "new code men," so called, have asked. This action will, to some extent at least, relieve the profession of the inconsistency manifested by granting the privilege of such consultations in cases involving the interests of the nation, states or municipalities, and denying the same in all instances affecting the welfare of families or individuals.

On the whole this accepted explanation of the Code is an advance in accordance with the spirit of the age. Serious injury to the regular profession or to the public in consequence seems impossible, while charges of inhumanity frequently and unjustly preferred are deprived of all apparent or real support.

The tendency of progressive medicine is toward the obliteration of "isms" and dogmas, not suddenly by violent opposition, but gradually and effectually by the power of the demonstrations of science.

The present state of the science and practice of medicine augurs well for the future. Causes and prevention of disease rather than specifics for the cure of the same engross the attention of many of the ablest members of the profession. The practitioner of fifty years hence, by the aid of his superior intelligence and increased scientific attainments, will be enabled to accomplish much that is impos-

sible in the present state of knowledge. It does not seem unreasonable to believe that he will treat acute diseases in such a manner that recovery will be almost uniformly the rule; adopt such means as may be required to prevent the outbreak of epidemic disorders; distinguish between results produced by mental defects or disease and those occasioned by the promptings of vice; afford protection against the ravages of tubercular and malignant diseases, and by virtue of his extensive resources pursue the practice of his profession with a degree of confidence unknown to the wisest physician of this less fortunate age.

PRACTICE OF MEDICINE.

F. D. BROOKS, M. D., CHAIRMAN.

REPORT OF DR. SLAGLE.

Mr. President and Gentlemen of the State Medical Society:

A brief discussion of a peculiar feature occasionally observed in typhoid fever, especially as it prevails in Minnesota, may not be uninteresting to us.

We will sometimes meet with a peculiar and very interesting symptom toward the latter stages of typhoid fever, concerning which I have seen very little said either in standard works or in Hospital, Society or Journal reports, and which certainly demands more attention from medical men than has generally been thus far accorded to it.

I refer to a peculiarly *slow pulse*, which I have witnessed in quite a number of cases of typhoid fever during my professional services in this State, (embracing a period now of about eighteen years,) and not having met with it previous to coming to Minnesota. Have observed it to a very remarkable extent within three months just past in a case in North Minneapolis. First met it in quite a number of cases during an epedemic of this fever in Southern Minnesota during autumn of 1874; the pulse in many of the cases running down as low as 34 to 36 for several days and not rising above 48 for as much as ten or twelve days in a few cases. The *slow pulse* being also more or less irregular (intermittent), and the temperature remain-

ing for the most part above normal (99 to 101 ½), and in no case *below* normal. The heart-sounds being somewhat feeble with more or less anæmic murmurs; though not in any case characteristic of local inflammatory action—neither indicating peri or endo-carditis nor declared valvulor lesions. Indeed I have not been able to determine any pathological lesion of the heart by aid of auscultation or percussion, although undoubtedly some such condition of the organ exists in all such cases.

I cannot deem the abnormal action as being of merely a *functional* nature, as it is too persistent.

The most satisfactory and indeed I believe the *only* theory or explanation of the symptom referred to, which I have ever seen advanced, was that by Dr. Stokes of Dublin, in his "Lectures on Fevers," which were being published (in 16-page installments) in the "Philadelphia Med. News and Library," and which happened to fall into my hands as fast as published, toward the close of that peculiar epidemic referred to—1874.

He attributed the *slow pulse* to "an organic change in the muscular structure of the heart"—a real *softening* of that organ—produced by the peculiar typhoid poison in the circulation; an *adynamic* rather than any sort of *sthenic* or inflammatory action about the center of the circulation.

Whether or not this theory or explanation is correct, I have not had an opportunity thus far to demonstrate by post-mortem investigation; but inasmuch as I have not seen a patient die with this peculiar symptom since adopting the treatment and general management predicated upon that theory, and having lost several just previous to receiving Dr. Stokes' explanation and suggestions in such cases, I am of course very ready to accept his explanation as to what is probably the true nature and cause of the symptom referred to; and I certainly feel that I never had professional advice come to me more apropos or timely than

did that from Dr. Stokes; just when I had about half dozen patients under my care presenting the very peculiar symptoms which he was then describing in his lectures; and although I had lost several patients presenting these symptoms, and had concluded to regard the slow pulse as almost certainly prognostic of death. I am glad to be able to state that I neither lost any of the cases then under my care, nor any of the very few isolated cases presenting these features seen since that time, as I then immediately and promptly adopted the line of treatment and general management which such an explanation would naturally suggest as eminently indicated, namely: enjoin strict recumbency and perfect quietude of body and mind (not even permitting the patient to help himself in the least while this peculiar symptom remains). Have the nurse keep a close vigilance over the patient both day and night. Order over the heart gentle stimulating and tonic applications in form of either embrocations or plasters, (mustard or spice plasters or tonic and stimulant liniments,)—though avoid very strong counter irritation over the cardiac region.

Enjoin patient to lay mostly on *left* side or semi-prone (with head low); keep extremities warm with dry heat; enforce rigid dietetic (always so important in grave cases); attend to every minute detail of strict regiminal management. Give internally tinct. digitalis, tinct. nucis vomica, tinct. chlor. ferri, quinine, ammonia, phosphorus, strych., etc., and, most important of all, give *alcohol stimulants unsparingly*—egg-nog, milk punch, brandy or whisky toddy, etc. Give it *often and freely day and night*, every one-half to one hour for several days and nights together, and even continue it (at longer intervals) during convalescence for several weeks, or until the pulse rate is well established. Stokes gave enormous quantities of alcoholic stimulants in such cases, and with perfect satisfaction as to results. I was at first not a little surprised

that Stokes did not regard this "softening of the muscular substance of the heart with remarkable and persistent diminution of the pulse rate" as being necessarily a very grave or fatal complication of typhoid fever (i. e., if rightly comprehended and properly managed). But a further experience of ten or twelve years has verified to my mind the correctness of his opinion in this regard.

Since beginning this article I have observed in the "Weekly Medical Review" (March 28, '85, page 256,) in a brief correspondence from Bowling Green, Missouri, Drs. Wilkes and Lawrence report a peculiar case under the caption of "Low Temperature and Pulse in Typhoid Fever," which they merely record briefly and without comment. When first seen (July 6, '84,) his temperature was 104° and pulse 80° (observe the disproportion between the temperature and pulse rate at first). These symptoms, declining somewhat under quinine, etc., though running rather a mild and uniform course until July 24th, when the temperature was found to be only 96½ and the pulse 48 per minute. On eve of 27th July, temperature 97, pulse 42 (weak and intermittent). They state briefly that under digitalis, whisky, quinine, strych., etc., and strict recumbency, this patient made a fair recovery without a *very protracted* illness. In this case the rather short space of time that the *pulse* (and temperature) remained *under* normal, together with the moderate period of his illness (dismissed Aug. 9th) would, I think, preclude the idea of "softening of the heart," and I am sure I have no explanation to render (safisfactory to myself) in that rather unique case. As before said, I do not remember ever to have seen the temperature fall *below* normal in any of the cases of "slow pulse" observed by myself; besides, every case was protracted in recovery, running all the way from 42 to 70 days before being able to safely dismiss.

In a case recently here in North Minneapolis of Dr.

Nye's in which I was called to assist through the entire illness (after first week), the duration of the attack was over one hundred days before the patient had sufficiently recovered to be deemed safe for dismissal. In this case the pulse did not rise above 56 for several weeks (about three weeks), and it stood at 38 to 40 for ten days or more and very irregular (i. e., intermittent, etc.); did not vary more than two beats per minute during each twenty-four hours, and temperature generally from 98½ to 100°; all other symptoms negative save emaciation and anæmic appearance. No albumen urine, appetite and digestion fair, bowels always constipated. This was a straight case of typical typhoid fever in a strumous boy about thirteen years old (German). No complication during the entire protracted run save the cardiac condition specified.

Another notable feature about the cases of "slow pulse," observed by myself, has been the fact that the patients have none of them been at any time during their illness very dangerously weak, or prostrated to any alarming extent. Neither their physical or mental powers being depressed at all in proportion to their *slow pulse rate;* and the pulse, while very compressible, slow and irregular, has not been without considerable volume.

Another feature of these cases was very observable: That the pulse rate could not be increased to any extent suddenly, or within a short space of time, by any amount of tonics or stimulants; whatever effect was produced by internal remedies was accomplished very slowly and gradually.

Digitalis was given continuously for several days and nights and then withdrawn for a few days without producing any marked effect on the circulation, except perhaps giving a little more tone or volume to the pulse during its administration. Quinine and whisky and ammonia and strychnia in large doses seemed to exert no effect in accelerating the pulse rate.

May remark, have always avoided giving salines and salts of potassium in these cases, as they all have a tendency to weaken the heart's action and deplete the blood.

As slow pulse is well known to be a symptom of certain cerebral affections or conditions, it will be interesting to state the fact that the cases of typhoid fever presenting this peculiar feature have manifested very mild cerebral symptoms—very little delirium or mental excitement; certainly nothing to indicate any cerebral complication.

REPORT OF CASE IN PRACTICE.

BY ARTHUR YOUNG, M. D., PRESCOTT, WIS.

The infrequency of cases like the following may possibly give to this sufficient interest as to warrant the bringing it before the members of the Society.

Mr. B., American, age 55, farmer, vigorous, healthy and of good habits, living on his farm nine miles from my residence.

Ten years ago and covering a period of about two years thereafter he had repeated attacks of hepatic colic. Their frequency varied from intervals of a few days to as many months. The paroxyms usually lasted but a few hours, and when the pain was once controlled it rarely returned during that attack. Several calculi were found in the dejections after the attacks; none found were larger than ordinary peas. Accompanying or following some two or three of the attacks were sharp invasions of jaundice, none of which, however, developed serious symptoms.

I left with his wife, after having been out in the night several times to relieve him, a hypodermic syringe, with such directions as enabled its use before the pain had de-

veloped into the intense form usually present on my arrival. She found occasion for its use but a few times, as the attacks gradually ceased, and he never had another symptom of them until the incursion of the one to be presently described, occurring seven or eight years from the date of the last attack.

On Sunday, April 26, I first saw him. He was suffering severely with the pain, though it was not so sharp and unbearable as that attending the old attacks, and it had come on more gradually, it having been three or four days reaching its present intensity. The usual methods for relief were adopted and the pain was soon in abeyance; yet it was never entirely controlled as it had been in previous attacks, and I soon became convinced that the calculus was impacted in one of the ducts. It was soon observable that he was more profoundly affected by this than any previous attack.

He and his wife, a lady of more than ordinary intelligence and force of character, were very early depressed and anxious to a degree quite out of proportion to any appreciable condition of danger. He soon became jaundiced, and it was noticeable that the color was not so bright a yellow as in the other attacks, being more nearly a bronze. He soon began to manifest the effects of cholæmia to an extent and with a rapidity that I had never before witnessed. There were no evidences of inflammatory action during the entire illness. The stomach was quite irritable, and the bowels obstinately constipated. From Wednesday there was some mild delirium, and toward the last of the week a condition of stupor supervened, so that there was much difficulty in arousing him. Friday he was taken with a distressing hiccough which in spite of remedies persisted to the end. He failed rapidly, so that by Monday it was evident the end was near.

On this day there occurred an incident the interest of which was to me greatly enhanced by a curious coinci-

dence, allying this case to one so noted that all will recognize the reference and relationship. Early in the afternoon (the patient gradually sinking) there was a sudden and violent accession of abdominal pain, with so much shock that he appeared to be dying; but stimulants, anodynes, etc., brought about reaction, and life was prolonged till after midnight. Apparently the seizure of the afternoon had very little influence in hastening dissolution.

Having seen the patient after reaction was established, I presumed there had been a rupture of the duct. The autopsy, however, showed it to be a hemorrhage of some four to six ounces immediately beneath the liver, and, though its source was not determined, it certainly was not from the ducts, which were all intact and normal, if we except the ductus choledachus, which from half an inch of its distal extremity back a little more than one inch was hermetically plugged by a biliary calculus so firmly impacted that the duct had to be split to release the stone.

Unfortunately the calculus was lost before accurate measurements were made, and approximate will therefore be given, being essentially correct. It was oblong in shape with rounded ends, very uniform in diameter, a fraction more than one inch in its longest diameter, one-third of an inch in its lesser. It was harder and heavier than biliary calculi usually are. There were no other concretions in gall bladder or ducts.

I should have mentioned that during life there were no indications of *renal* disease; this being also confirmed so far as a rapid and imperfect post mortem examination would do it.

Want of space forbids any commentary on this case from myself, which is not to be regretted, as any value it possesses is in the case itself, and not in what I may think of it.

REPORT OF DR. F. A. DUNSMOOR.

In December, 1880, was called to see Mrs. J., Scandinavian, age 28; family history good; married, and mother of two children. She had previously been in good health —in fact, an unusually strong and healthy woman. She retired as early as usual the previous night, and in the morning was completely deranged—scarcely recognizing her husband or children—and for the following four months imagined herself again a domestic in the service of one who treated her very meanly, especially in making her sleep in cold places. She very much objected to sleeping in the look-out or observatory, where she, in her imagination, spent a portion of her nights, for the place was so noticeable on the St. Paul road.

She also had great depression from religious fears and thoughts of sins never committed, being in tears a great part of the time. She would frequently lament and ask forgiveness of those about her, but was always kind to her children.

Her menses appeared about ten days after commencement of her mental trouble—their regular period—occurring normally during the succeeding months.

After four months of this phase of melancholy insanity she awoke to a complete restoration of her mental faculties, only remembering the immediate past as one recalls a dream. She remembers the visits of friends, physician, and frequently parts of conversations; and feels that relief which comes to one after deliverance from the horrors of nightmare.

ERYSIPELAS WITH CHILD BIRTH.

BY P. A. HEITZ, M. D.

I was called on January 27th last to see a lady advanced in pregnancy. She was suffering from high fever, with puffiness around the eyes, which with other symptoms, indicated to me a case of erysipelas. At the visit next day found the left side of face quite red and swollen, with a blistered surface around the eyes. That night the lady was confined. The child passed without trouble. On the next day the whole face was covered with the erysipelas, attended with much neuralgic pain.

I had never seen a case before in which the same combination of conditions were present, and was very doubtful whether the usual treatment for erysipelas would succeed in arresting the danger I could foresee. My fears were that it would fall on some of the abdominal organs. The erysipelatous eruption passed over the head and face and then subsided, as also did the fever.

The question in my mind was whether the treatment of erysipelas should be modified by the condition of the lady. I commenced the use of iron with some doubts as to its action, as a tonic of that character would be as effectual when the erysipelas existed during child-birth as under other circumstances. I used locally the nitrate of silver not absolutely to cut the disease, but to prevent damage to the patient by its extension, and along with this gave diuretics.

Several days elapsed and the patient seemed to be doing well. All at once she complained of pains in the axilla running down to the illiac region. It seemed that the disease was travelling whether by subcutaneous tissues or ld not say. The abdomen became

enlarged and tender, with active inflammation of the womb, and from all the indications present I thought she would die. I persevered in treatment, but the next day she died.

My object in presenting this case is to inquire whether any member of our Association has met or had any experience with such a complication and whether it is best to treat the erysipelas without the complication.

ALBUMINURIA FROM SUBINVOLUTION.

BY F. J. CRESSY, M. D.

Following is the report of a case which came to me April 17th.

Mrs. W. E. C., age 29, married, and the mother of four children, born as follows: Jan. 9th, 1880, April 6th, 1882, January 15th, 1884, and Jan. 24th, 1885.

Patient had intermittent fevers during the fall and winter of 1866 and 1867. Had fair health from that date to last pregnancy, at which time she became dropsical, continuing in that condition to end of pregnancy. Was delivered January 24th, 1885, by a midwife, who states that the uterus followed child into the world, but, upon contracting, returned unaided.

The child being delivered, anasarca disappeared; yet the mother did not improve. She gave a history of subinvolution, with its attendant evils, from that date to April 17th. A homeopathic physician being called cheered her with the news that she was again pregnant.

Upon visiting her eighty-three days subsequent to delivery she presented the following appearance: Anæmic, with pale waxy complexion, some œdema around eyes

and upon os frontis; complained of great weakness, talked with difficulty; had dragging down pains and no appetite, and constant dripping of urine. Pulse 100; temperature 197. Urine small quantity, strongly acid and albuminous, heat precipitating a quantity equal in bulk to one-fourth of the urine taken. Urine contained mucous, but no pus. Examination per vagina and rectum revealed a uterus the size and very much the shape of a large orange. It was low and pressing urethra and neck of bladder. Ordered patient to lie upon her back with hips elevated, and to have daily vaginal injections of a solution of sodæ bi. bor. in water as hot as could be borne.

Gave pil. quin. sulph. 2 gr. thrice daily; also liq. potassæ and tinct. opii deod., of each 1½ drachms; elix. simplicis add q. s. 2 ozs. M. sig.—Teaspoonful every four hours.

April 19th.—Patient improved. Urine still acid and albuminous.

22d.—Patient stronger; no drippling of urine, but eyelids more puffy. Pulv. jalapæ 1 drachm, one-third to be taken every second hour until bowels move.

24th.—Patient could not take the above, so ordered pil. elaterii ⅛ gr. every fourth hour. This could not be obtained so ordered free purgation with magnes. sulph. Hot vaginal injections and quin. sulph. continued.

25th.—Improved; no dribbling urethra; frequent calls to void urine.

30th.—No albumen, and patient improved in every respect. Gave tinc. ferri chlor. m. x. potas. chlor. 2½ grs., morph. mur. 1-16 gr., syr. simp. 1 drachm; after each meal.

Patient improved, uterus became normal, œdema disappeared, and May 19th patient declared herself well as ever.

SURGERY.

F. A. DUNSMOOR, M. D., CHAIRMAN.

SUPPURATIVE PERITYPHILITIS.

BY F. A. DUNSMOOR, M. D.

W. S., aged 30; occupation, stonemason. Was called to see this case in consultation. The attending physician had diagnosed typhoid. The patient had been sick three weeks, with a history closely resembling typhoid as regards the objective symptoms. Upon close examination could detect and outline a hardened mass in right iliac fossa, marked tenderness upon pressure, and dullness upon percussion. Patient unable to flex right thigh, and suffered pain upon attempting to move it; most comfortable with thigh semi-flexed. Diagnosis: Perityphilitis; treatment, opium, quinine and turpentine, as symptoms indicated; locally, flax seed poultices. The necessity of operative interference suggested to the family, but objected to.

Shortly thereafter was again called and assumed charge of the case. Indications of deep-seated pus being apparent, I urged consent to an operation, but in vain.

At end of five weeks patient had developed a low hectic condition, rapid, wirey pulse, clammy skin, exacerbations of fever with pulse of 110 to 140, and temperature 100 to 104 degrees. The hardened mass in the iliac fossa had become obscure and scattered, the induration extending from Poupart's ligament to navel upon the right.

Deep-seated fluctuation could be detected a little above

Poupart's ligament and nearly as far to the right as a line drawn perpendicular to the anterior superior spinous process. Upon assuring the family of the presence of pus, and representing the dangers of procrastination, consent was given to operate. Using local anasthesia, I made an incision at lower point of fluctuation and easily evacuated a large quantity of pus of an intolerable odor. Patient's change for the better was immediate, and he made a rapid recovery.

CASE 2.

F. V. C., age 28; occupation, attorney. Was called to see this case during a chill, evidently resulting from washing a buggy with cold water. The history of this case during its first four weeks was that of an ordidary typhilitis. The sausage shaped hardness became very marked during third week of sickness. At end of fourth week a developing perityphilitis was well marked. The characteristic pain of right leg upon motion with stiffness and desire to retain it in a semi-flex position, plainly indicated that the celular tissue in region of psoas muscle was involved in the process of inflammation. At this time patient was experiencing daily exacerbations of fever, with temperature ranging from 100 to 103, and pulse 100 to 130, varying appetite, occasional night sweats, and alternate diarrhœ and constipation, wholly due to the inflammatory changes occurring in the cæcum. Patient able to sit up a very little.

During second month in the history of this case there were no perceptible changes except in an increased stiffness and a persistent flexion of right leg and extension of the induration to include nearly the whole iliac fossa. The characteristic sausage shaped hardness had left the region of the cæcum and became more deep-seated and diffused. At this time a deep-seated induration could be detected in right loin just above brim of illeum. At end

of ten weeks deep-seated fluctuation could be detected with a degree of uncertainty bordering upon the doubtful.

After repeated efforts I finally obtained permission to make an exploratory incision. Making a careful dissection of the right loin at a point above indicated, I was rewarded by the escape of about four ounces of very fœtid pus of a stercoraceous odor. The sinus tract was fully six inches in length. A free drainage was sustained for two weeks through a drainage tube, and the sinus became apparently obliterated. The patient made a rapid recovery. The induration of the right inguinal region was several months in disappearing.

This was one of those rare forms of perityphilitic suppuration that the pus finds an outlet through the deep muscles of the back.

Case 3.

R. L., aged 40; occupation, mechanic. Was taken with a chill and vomiting, followed by fever and pain; referable to cæcum and ascending colon. First visited this patient at end of third week's sickness for my partner, Dr. Merrill, who was ill at the time. The induration and tenderness was pronounced in the right inguinal region, deep-seated fluctuation quite well defined over seat of induration. Apprised family of danger and necessity of operative interference. Next morning patient awoke with sudden desire to evacuate bowels. He passed not less than half a pint of clear pus in a stool. He became much collapsed therefrom, but rallied and made a rapid recovery. This was clearly one of that class of cases that pus finds its escape into the intestines.

I have cited these three cases very briefly to direct the attention of the profession to a much neglected but very common surgical malady.

A perityphilitis is an inflammation of the connective

tissue which attaches the ascending colon to the iliac fascia. It being so frequently a sequel of typhilitis, it is necessary before resorting to any operative measures, to make a careful differentiation between this disease and typhilitis. In typhilitis the symptoms are principally referrable to the intestinal tract, and the induration of the cæcum is sausage shape and easily outlined. In perityphilitis the induration is obscure and irregular, the deep iliac fossa is probably involved, and there is a contracted condition of the flexor muscles of the thigh with pain therein and a sense of formication. The tumor of typhilitis is superficial; of perityphilitis deep seated. A typhilitic tumor gives a flat percussion sound, a perityphilitic a dull percussion sound.

It should be remembered that the peritoneum only covers the front and side of the cæcum and in this condition the inflammatory process is going on entirely outside of the abdominal cavity proper, unless there is accompanying typhilitis. The termination of a perityphilitis is by resolution or pus formation. Having diagnosed satisfactorily the existence of a perityphilitis, the subsequent treatment thereof should be assigned to the surgeon. In cases where resolution does not take place the pus must either be absorbed or find an outlet. This outlet is by the right inguinal region just above or below Poupart's ligament, perforation into the abdominal cavity, perforation into intestines or bladder, perforation through deep muscles of back or at rectal region. Statistics inform us that the mortality from this disease is thirty per cent. I desire to particularly direct the attention of the profession to the necessity of operative interference in all cases where there are marked symptoms of the formation of a pus cavity. It should be borne in mind that up to this stage of the disease but few succumb, and that it is the insidious course of the suspected pus that kills so suddenly. It is at this point in the history of the case, that after a few days delay, you get a perforation into the abdominal cav-

ity, with fatal termination or perforation into bladder with like termination, septicæmia, &c. Another consequence of the free burrowing of pus in such loose areolar tissue is the consequent sinuses that never become obliterated. The patient is frequently the sufferer of a subsequent attack with an increased liability to a fatal termination. Convalescence by resolution without the formation of pus rarely occurs. Absorption of quite large quantities of pus or masses of induration not infrequently occurs, but convalescence in such cases is very tedious.

The method of operating in these cases should be by a free incision parallel to Poupart's ligament down upon the deep fascia transversallis, when the free use of the needle of an aspirator should be used, and upon reaching the pus cavity a free incision should be made and a drainage tube inserted. The danger of the operation *per se* is trifling, while the disease, if left to itself, is attended by a mortality that should not be chanced when so safe an operation affords reasonable chances of escape.

Wood's Operation for Radical Cure of Inguinal Hernia.

J. C., age 35; occupation, cook.

This patient had suffered with an oblique inguinal hernia many years. It was reducible and had generally been controlled by a suitable truss. Recovering from the loss of both feet by freezing, he was enabled to get about without any inconvenience from his old rupture. From over-exertion he got it down and it became strangulated.

I was called to reduce it six hours thereafter. The strangulated mass was about the size of a hen's egg. Finding it impossible to reduce it by taxis I sent for ether and determined to try reduction under a full anæsthetic and failing therein to immediately operate for relief of the strangulation, and also make the operation known as

"Woods" for the radical cure of hernia. Finding reduction impossible under an anæsthetic, I immediately proceeded to operate with the assistance of Drs. Voight, Clark and Merrill. The herniotomy was completed without any difficulty and the operation for a radical cure proceeded with.

After carefully dissecting the sac from its adhesions as far up as the inner ring, I ligated it and cut it away with scissors, passing the sutures to thoroughly include the conjoined tendon and pouparts, bringing the parts together and using pressure, the operation was completed. The patient made a rapid recovery without a bad symptom. Three months after the operation the patient had experienced no difficulty from his old rupture and the track was apparently obliterated.

I called the attention of the Society to this operation in a short paper last year and reported a case therewith. The operation is reported by Mr. Wood, in volume 5 of Ashurst's International Encyclopedia of Surgery.

It has consequently become one of the recognized means of obtaining a radical cure. I desire to direct the attention of the profession to this article, and trust the operation will be given a thorough trial, at least following cases of operation for strangulation.

REPORT OF DRS. W. W. & W. J. MAYO.

We enclose a report of a few cases of interest occurring during the past year.

In our practice the catgut ligature, drainage tube and absorbent cotton have given great satisfaction. In three cases of amputation of the breast for scirrhus, two were healed with but a single dressing on the eighth day for

removing the drainage tube. In the third, there being considerable tension, silk sutures were used.

In amputations we unite the components of the flaps in separate layers, over the bones, with catgut. The last in a gentleman of 75,—amputation in middle third of fore-arm; union had nearly taken place in three weeks.

In hernia, our experience, in one respect, has been unusual. In three cases of stangulated hernia, two necessitated the forming of fecal fistula. Of these latter the first was Geo. Cooper, of Kasson, age 72. In the hands of homeopaths he had been maltreated for eleven days, and upon arrival found him in a condition hardly to warrant an operation. At his request the hernia was liberated, the gut being found in a gangrenous condition. It was opened and sutured to the edges of the incision. The old gentleman rallied surprisingly; in ten days was able to be around; feces passing freely by the fistula. But during the fourth week he failed and died of exhaustion.

The last occurred in a Mrs. A. Johnson, Dodge Center, age 62. Strangulated femoral hernia, seventh day. A physician was not called until the previous night. Here the intestine, a loop of the colon, was gangrenous. Towels wrung out of hot water were applied to it for some time, but failed to restore the circulation. In this case the gut was liberated, incised, and sutured to the incision, gas and feces passing at once with great relief. At this writing ten days have elapsed with very satisfactory improvement. The after treatment has been very carefully managed by her attendant, Dr. S. W. Ransom, of Dodge Center.

We have made Heaton's operation for radical cure of hernia five times, three successfully and two failures.

In a case probably of cancerous obstruction in the transverse colon, in which the patient, a gentleman over 50, was sustained by nutritious enemas for four weeks and nearly exhausted, a right lumbar colotomy with fecal fis-

tula was made, followed by relief, food being borne well and feces passing through the opening, but the patient was too much exhausted and died in a week. In a like case we would operate early.

Very truly yours,

DRS. W. W. & W. J. MAYO.

CASE I.

Ovarian Tumor Operation—Recovery. Mrs. J. Wagoner, Rochester, Minn., age 33 years, mother of two children.

Was called to attend her January 11, 1882. She complained of a swelling in the left side, which a careful physical examination proved to be a cystic degeneration of the ovary, of small size. About this time she became pregnant, and in the following May aborted, resulting in a pelvic cellulitis, from the effects of which she but slowly recovered.

The growth of the tumor was gradual. In October an operation was recommended. To this she would not consent. As the tumor had become so large as to interfere with respiration, it was tapped, but rapidly refilled. Her general health greatly deteriorating, she became emaciated, unable to retain nourishment, and finally as a last resort consented to an operation.

On December 14th, with the assistance of Drs. J. E. Bowers, G. B. Ayres, W. J. Mayo and D. M. Berkman, I removed a multilocular cyst, weighing twenty-four pounds, having but few adhesions; the only complication being a pelvic abcess of large size between Douglas' cul de sac and the rectum, the result of the cellulitis. This was opened; a large amount of pus flowed into the abdominal cavity, which was carefully sponged out, a drainage tube inserted at the lower angle of the incision which was sutured with silk; the operation lasting about one hour and followed by

considerable shock. On the fourth day the glass drainage tube was removed, but the patient did not do well, gaining very slowly for several weeks, until in January, 1883, there was a spontaneous discharge of pus from the rectum probably from the refilling of the abcess cavity; after this she speedily convalesced.

Anæsthetic: chloroform; no antiseptics other than cleanliness.

CASE 2.

Ovarian Tumor Operation—Recovery. Miss T. Voltz, age 19, Marion, Minn.

Consulted me in fall of 1882 regarding an abdominal enlargement, dating from an abortion six months previous. Careful physical examination gave a diagnosis of ovarian cyst; an operation advised and refused, as she was but little inconvenienced. The growth was comparatively slow, and not until the following summer did it seriously interfere with her comfort. In October, 1883, still refusing an operation, she was tapped.

The tumor now rapidly refilled and on January 3d, the patient and friends consenting, assisted by Drs. J. E. Bowers, W. J. Mayo and D. M. Berkman, I operated, removing a multilocular cyst weighing thirty-two pounds, the base of which was composed of cysts too small for tapping; these were broken down with the hand and removed, the largest cyst being laid open and turned over the edges of the incision, thus protecting the abdominal cavity; several inches of the congested omentura was ligated and removed.

The patient made an uninterrupted recovery without medication, and in about one month married and within the year was delivered of a fine child, the carrying of which ruptured the cicatrix in the linea alba, producing abdominal hernia.

Anæsthetic: chloroform; no antiseptics.

CASE 3.

Ovarian Tumor Operation—Death. Miss H. Libby, Fargo, D.T., age 38.

Was sent to me May 1st, 1884, for removal of ovarian cyst, having made its appearance in September, 1882; was diagnosed as such by her attending physicians, but an operation was refused. During the following summer a tapping was made for temporary relief. After this she passed into the hands of an irregular practitioner, who proposed to cure her by baths, electricity, and later by frequent tappings, removing small quantities of fluid; a result of this method was an attack of diffuse peritonitis, from which she nearly died. The tumor refilled rapidly, and although extremely postrated she started on her journey, arriving at Rochester completely worn out, just as I was about starting for the meeting of the American Medical Association. Hoping she might recruit I left her in charge of Drs. J. E. Bowers, Ida Clark and W. J. Mayo.

On my return, May 20th, I found her so low as to make the propriety of an operation doubtful. As a forlorn hope, on the following day, May 21st, I operated. No separation in the line of the incision was possible between the pariental and investing layers of the peritoneum, the parts being completely agglutenated by freshly formed adhesions. The tumor was polycystic, the largest cysts being emptied by the canula, their walls carefully separated from the abdominal parieties, the very extensive adhesions to the intestines were separated and ligated with fine silk. Getting now to the base of the tumor it was found so firmly adherent to the surrounding parts as to render separation impossible. Accordingly it was enucleated from the investing peritoneum, this drawn together and ligated with stout silk. The pedicle was very thin, the tumor evidently deriving much nutrition form the adhesions. The abdominal cavity was carefully cleansed of

canula from its insertion into the superior bladder wall, and in its place pushed a small steel sound, catching its tip in the bladder neck; it was firmly held by an assistant. With this additional guide, I completed the cystotomy with ease, cutting from tip of one sound to tip of the other, and the sound in the urethra was pushed on into the bladder; the urethra was placed in as good a condition as its lacertions would permit, the wound packed with absorbent cotton. The after treatment was carefully managed by Drs. Ransom and Porter, and at last accounts he was entirely recovered; urine passing naturally.

W. W. MAYO.

LINGUAL EPITHELIOMA.

Mrs. M. McGuire, age 50, Dodge Center, Minn.

Consulted me March 22, 1884, in regard to a growth of the tongue which appeared the previous fall, and supposed to be due to the irritation of a broken tooth. It was a typical epithelioma of the anterior third of the tongue involving the floor of the mouth. March 23d, assisted by my father Dr. W. W. Mayo and Dr. Ida Clark, I removed the diseased portion; the patient in a reclining position and under the influence of chloroform; I passed a stout cord through the tongue behind the growth, and drawing it forward cut the cancerous portion away with dulled scissors, cauterizing the stump with the hot iron and thoroughly scraping the floor of the mouth with a sharp scoop. From the extent of the disease and its infiltration into the surrounding tissue an unfavorable prognosis was given, and after several months of comparative comfort the growth reappeared and the patient rapidly succumbed.

ALVEOLAR SARCOMA—REMOVAL.

Minnie Myers, Potsdam, Minn, age 12.

In October, 1884, I was consulted in regard to a growth of the gum on the left upper jaw between the second bicuspid and first molar teeth, displacing the former outward. Under chloroform the tooth was drawn, the epulis cut away and its alveolar attachments removed. In February, 1885, she returned with the growth refounded, of considerable size, involving the entire alveolar process of the left superior maxiliary bone, pushing the teeth outward. On February 9, 1885, with the assistance of Drs. W. W. Mayo, Ida Clark and F. L. Beecher, D.D.S., the patient half sitting and under chloroform, the teeth were drawn, the alveolar process divided with bone forceps and wrenched, the sharp scoop and bone chisel being thoroughly applied to the remainder of the jaw. The profuse hemorrhage was checked with the actual cautery; the wound, which included the antrum, was packed with cotton and powdered sub-sulphate of iron. The sections of the tumor under the microscope gave the characteristic cells of myeloyd sarcoma. The wound healed kindly and the growth has not returned since.

COMPOUND COMMINUTED FRACTURE OF SKULL—ESCAPE OF BRAIN SUBSTANCE—RECOVERY.

Artie Postur, age 8, was struck by ⅜ inch bolt of a feed-mill while in motion, above the right ear, the bolt entering to the depth of 1¼ inches, fracturing the skull, lacerating the anterior branch of the middle meningeal artery, the meninges and frontal cerebral lobe, probably near Rolondo's fissure; about a tablespoonful of brain matter escaped.

The pieces of bone were removed, the hemorrhage checked by pressure, the wound dressed with a compress,

which was not removed until the fourth day. The wound healed kindly by granulation with but little general disturbance. At this writing, two months after the accident, the boy is in perfect health, with nothing but a soft pulsating depression to mark the injury. The after history will be watched with interest as to its effect on his mental development.

W. J. MAYO.

FRACTURE OF THE INTERNAL CONDYLE OF THE HUMERUS.

BY J. B. M'GAUGHEY, M.D.

There are no class of injuries which occasions greater anxiety to the attending surgeon than fractures of the condyles of the humerus. These fractures occur much more frequently in children than in adults, and in most cases we find the patient too young to comprehend the importance of co-operating with the surgeon in his efforts to maintain proper position of the affected parts.

In the discussion of this subject in the surgical section of the American Medical Association at its last meeting, Dr. W. F. Peck of Iowa advocated the treatment of these injuries by placing the arm in proper position and allowing it to rest upon a pillow without any confining apparatus.

The report of the following case illustrates some of the difficulties occasionally encountered in attempting to meet the indications for treatment in accidents of this kind.

A girl three years of age sustained a fracture of the internal condyle of the humerus on the 28th day of July, 1884. The detached condyle was displaced upward and

forward. She was seen a short time after the accident, and the displacement was reduced with comparative ease. There was decided swelling and evidence of severe contusion at the date of first visit.

The forearm was flexed upon the arm at about a right angle, and anterior and posterior splints, well cushioned, were applied, and the arm placed in comfortable position upon a pillow. Within eight hours after the dressings had been applied, the swelling had advanced to such an extent that the removal of the splints was rendered necessary.

The forearm was then placed upon a pillow and absolute rest was enjoined, but owing to the carelessness of attendants, the pain experienced and the natural excitability of the child, this was very imperfectly attained.

The swelling was so great as to render the application of splints dangerous, if not impracticable.

At the end of five weeks there was evidently good union, with considerable deformity of joint. Upon extension of the forearm there was marked defection toward the ulnar side. Passive motion was instituted towards the close of the second week of the treatment, which probably accounts for the freedom of motion obtained, and which may have influenced, unfavorably to some extent, the degree of deformity.

FEMORAL HERNIA—SLOUGHING—DEATH.

BY J. B. M'GAUGHEY, M.D.

On the evening of May 4th, 1885, I was called to see Miss ——, age 45 years, learning upon inquiry that patient had suffered from occasional attacks of pain at the lower part of abdomen on right side, for more than six months,

and that a tumor had been observed in that locality for the same period, said tumor attaining considerable size at times and again almost entirely disappearing. She was seized with violent pain in right iliac region about two weeks previously, which was attributed to colic by her attending physician—a homeopath. In less then forty-eight hours there was decided relief to pain, but marked swelling and redness remained in right side; stercoraceous vomiting occurred at intervals for some days. The disease was then christened invagination or "telescoping" of the intestines; later the terms abcess and erysipelas were added to the list of names applied to this affection. Prognosis of attendant—recovery.

The patient, a lady of spare habit, presented the facial appearance of one in the later stages of phthesis. Pulse 124, feeble; temperature 100.

Upon examination I found that a considerable slough had separated on the right side below Poupart's ligament, producing an opening through which the fasces were discharged. The cellular tissue on the inner aspect of the right thigh was also involved in the sloughing process. Above Poupart's ligament there was extensive sloughing of the integments and connective tissue. In this region, however, the process was not advanced so far as in the tissues below the ligament.

The diagnosis of strangulated femoral hernia, followed by death of the parts involved was made, and the relatives of the patient were informed that her condition was absolutely hopeless.

The patient was now in the care of a very intelligent nurse, who contributed much toward making her comfort-table by keeping the parts well cleansed and using carbolized irregations. Morphia to allay irritation and secure rest was administered as the indications required.

On the 10th of May I was requested to meet Prof. R. L. Rea of Chicago at the residence of the patient. Pulse at

this time was 136 and very weak. After some hypodermic injections of brandy she was brought under the influence of ether. Dr. Rea then examined the case and confirmed the diagnosis of hernia and the unfavorable prognosis. He then proceeded to remove the dead integument and cellular tissue; at least so much as was accessible, and introduced drainage tubes, by the aid of which the effectual cleansing of the parts was more readily accomplished.

The patient was much prostrated after the completion of the operation, but rallied slowly and imperfectly under the influence of stimulants and the application of dry heat.

She remained comparatively comfortable, but failed gradually until she was relieved by death on the evening of the 12th of May.

This case furnishes additional evidence, which unfortunately has been already too abundantly supplied, that much suffering arises and death results in cases in which accurate diagnosis should be made and relief afforded by anyone whose qualifications are such as to entitle him to pursue the practice of medicine and surgery.

COMPOUND FRACTURE FORE-ARM.

BY J. B. M'GAUGHEY, M. D.

T. F. A., Polish laborer, on the 23d day of June, 1884, was caught by a rope upon a drum used for the purpose of drawing loaded cars into position at a flouring mill. The arm was drawn around the drum under the rope.

Upon examination of wounds it was found that there was extensive laceration of tissues in palm of left hand, exposing the tendons of the flexor muscles, with fracture of two of the metacarpal bones, fracture of both bones of fore-arm just above the wrist joint, and fracture of both

bones about three inches above this point. The upper fracture of ulna being compound and attended with great laceration of the soft tissues.

In addition to these injuries he had sustained the loss of the terminal phalanges of two fingers on right hand in his attempts to release his unfortunate left arm.

The state of the parts was such as to suggest the propriety of immediate amputation of left arm; but after thorough exploration of the injuries it was decided to attempt to preserve the member. A loose section of the ulna was extracted and the jagged ends of the free extremities of that bone were removed with a saw,—antiseptic precautions being used throughout. The wound in hand was closed by sutures, and the arm was placed in a fracture box, which was padded with oakum. A slight grade of inflammation supervened which terminated in suppuration. Free incisions were made and drainage tubes were drawn through the fore-arm.

At the end of two months the wounds were entirely closed, the fractures of the radius having united by bony union. At this time the patient possesses a very useful arm and hand, although the strength of the member is much impaired, owing to the loss of substance of the ulna.

The case presents a gratifying result of conservative surgery.

EXCISION OF PATELLA WITH REPRODUCTION.

BY A. SHIMONEK, M. D.

A lad of thirteen years, while climbing an iron fence, struck his knee, which gave him some pain, but not enough to keep him from his play, at which he kept some hours

after the injury, when the pain increased to such an extent that his play began to lose its charms.

He went home and soon was compelled to take to his bed. The joint soon commenced to swell, pain kept on, and the lad was left without medical aid until suppuration occurred and pus discharged itself spontaneously. I first saw him on the 1st day of December last, when I found him in the following condition: The constitution showed evidences of suffering, loss of sleep and general mal-nutrition; the knee joint was considerably swollen, reddened, immobile, painful, and two fistulæ on the outer side of the joint were discharging pus. I immediately commenced treatment by making a free incision over both openings into the cavity of the joint, giving vent to a large quantity of pus.

I used antiseptic injections and dressing every third day, being rewarded by perfect healing of the wound in two weeks. Unfortunately my rejoicing was soon changed to disappointment by the appearance of another fistula over the center of the patella, which led to the bone. This I treated by antiseptic and stimulating injections, but without any benefit. My probe soon detected a cause for the fistula in a ronghness of the bone. Having made an incision over the opening I scraped the affected bone and treated the wound as before, but all without any avail, when another incision was made, and a counter-opening, introducing a drainage tube through both openings and establishing perfect drainage, which was continued about three weeks, pus flowing quite freely all that time. When I withdrew my tube the counter-opening healed very promptly, but the original fistula remained as before, now the probe showing evidences of extensive necrosis of the patella.

The boy was put under ether, a longitudinal incision was made, the bone exposed and found to be almost all necrosed. When the dead bone was removed we had

only a very small piece of the inferior border remaining, which was cartilaginous and seemed healthy. The wound was thoroughly cleansed and dressed with marine lint and a posterior splint applied.

Some day later few pieces of necrosed bone came away, now evidently leaving the joint destitute of a patella. The large, ugly looking wound which fortunately was external to the capsular ligament, soon commenced to fill up with healthy granulation, and in about six weeks it was almost entirely healed, when to my surprise and great satisfaction I found a movable and semi-solid substance, which gradually became harder, and proved to be the reproduced patella.

Passive motion diligently kept on commenced to result in motion, and now, or about six months after the accident, I find my patient with a new patella, which is longer and wider than its fellow, but not quite as thick. The joint has perfect motion, and with exception of a slight limp, which will wear away entirely in time, the boy gets around as good as any of his playmates.

The patella is not often diseased, but sometimes it does become affected without the femur and tibia participating. I can not find any account of the reproduction of the entire patella in the medical literature at my disposal, with exception of eleven cases of excision, eight of which were complete and three partial, reported by Dr. Heyfelder, who says nine made perfect recoveries, but does not mention whether or not the bone was reproduced. Gross and Krode each report a case of the entire removal of the patella, followed by perfect result of a movable joint; but I cannot understand whether in their cases the bone was reproduced.

REPORT OF SURGICAL CASES.

BY L. H. MUNGER, M.D.

On the 23d of January, 1885, Mrs. G. R., aged 47, of medium height, stout build and fleshy, naturally of a sallow complexion, with whom I had had some acquaintance for four years, came to me.

She complained of dull pain across small of back, heavy dragging pain in pelvis, frequent desire to urinate, which act was painful because of a scalding sensation, a sanious and offensive vaginal discharge, "queer feelings" in her head; said she had "no mind" any more, very little appetite and was growing weaker every day. She had a quite marked cachectic look. All of these symptoms being aggravated during each menstrual period, which occurred from once in two to once in five or six weeks.

It not being convenient at that time to make an examination, I prescribed fl. ex. ergot and tr. of iron, fl. ex. cascara sagrada, and a vaginal wash of hydrastis and chlorate of potas.

She remained on this treatment for some weeks, and improved in her general condition.

On the 25th of February I examined the patient and called in Drs. Wheelock and Edmunds to examine her with me. We agreed in diagnosing epithelioma in the form of a "cauliflower growth" on the os uteri, of about the size of a goose egg. It involved all but the anterior one-fourth of the os uteri, nearly filling the vagina, shortened as it was by the dragging down of the uterus. The finger in the rectum could get above the tumor and between it and the body of the uterus. The surface of the tumor bled moderately and seemed quite sensitive. We decided that it could probably be entirely removed, and recommended that that operation be performed.

On the 17th of March, assisted by the before named medical gentlemen, I removed the abnormal growth, using a Smith's curved ecraseur, carrying No. 7 piano wire. I adjusted the loop well above the tumor, and I think the wire cut through normal tissues exclusively. I turned the screw very slowly, but twice broke a single wire, and then completed the operation with a double wire.

The hemorrhage was very slight, hardly as much from the stump after the amputation as from the surface of the tumor before. I however used the actual cautery lightly over the entire stump, then washed out the vagina, packed it with absorbent cotton wet with a one per cent. carbolic acid solution. She was under the influence of chloroform about forty-five minutes.

The packing was removed, the vagina thoroughly washed with a solution of salicylic acid and tinct. of myrrh, and the carbolized packing replaced every day or every other day for ten days, only that I lessened the amount of packing each day. I used the catheter while she was still on the operating table; again the next day, and the day following.

The stump healed very kindly and quickly. There was never much suppuration. The bowels gradually resumed a natural action, as did the urinary organs, and in all respects she made a rapid and satisfactory recovery. At present writing she is doing her own house-work and feels as well as for years, only that she tires easily.

Microscopical examination of the tumor confirmed our diagnosis. The tumor weighed two and one-half ounces.

On the 19th of May, 1884, I was consulted by Mrs. J. M., aged about thirty. She looked emaciated, worn and sallow. Said she had been suffering for three months with neuralgic pains in the upper jaw and right side of head and face.

She showed me a small sore or abrasion on the gum

just inside of the right upper incisors. Also a minute fistula on the external surface of the gum. Into this I passed a fine probe and discovered denuded bone over a space as large as a nickel. The gums had cleaved from three incisor teeth, but the teeth showed no decay and seemed healthy. I appointed a day when my partner Dr. Wheelock and I would examine her together. When that time came we found the bone honey-combed, so that we passed the probe in at the fistulous opening and into the mouth at the site of the sore, which before seemed only an abrasion. We extracted the three incisor teeth and found them apparently sound, but the alveolar process of the superior maxilliary bones was necrosed. We put her on general tonic treatment, and promised at the proper time to operate, as might become necessary, to remove the dead bone.

On the 5th of June we anæsthetized the patient with chloroform and removed all the necrosed bone, cutting into the healthy bone all around, as there was no line of demarkation. It was necessary to extract the remaining incisor. The cavity thus made was the width of the four incisor teeth and five-eighths or three-fourths of an inch deep. There was very moderate hemorrhage, and I used only ice water as a styptic. I washed the cavity with a one per cent. carbolic acid solution, and directed that it be washed one to two hours with salacylic acid and tinct. myrrh in water.

For two or three weeks the wound seemed to do well and to be slowly healing by granulation. I then found it to be carious. I continued the tonic and local treatment as before, and simply watched it closely. In about four weeks I discovered a separation and sequestration of dead bone. I divided the sequestration and removed it in halves. The cavity was now as large as an English walnut, and communicated by two round openings (each large enough to admit the end of a pencil) with the

anterior nares. The canine teeth were both exposed their entire length except at the junction of root and crown, where they were surrounded by a narrow ring of gum.

I still continued the same treatment. The cavity began to fill with granulations and a pseudo-mucous membrane formed by the time the cavity was one-half its original size.

I heard from her in February, 1885, that she was fleshier and in as good health as ever before in her life.

I have attended one comminuted fracture of thigh in a man 46 years old; a very unmanageable patient. I put on the thigh a short splint of quilt and lath, and then a long splint with weight at the foot, and a perineal band. Kept him on his back fifty-nine days. Limb recovered very nearly as straight as before, with one inch of shortening.

Aug. 19th, 1884, I performed thora-centisis on a young man, a patient of Dr. Wheelock. The case was one of suppurative pleuritis of one year's duration. I passed a perforated rubber tube in between the sixth and seventh and out between the eighth and ninth ribs. We concluded afterward that the tube had better have been brought out between the ninth and tenth ribs. Abcesses formed in the lung itself, and the patient died.

These, with quite a number of less important fractures and dislocations—one case of hair-lip, one of aural polypus, and numerous minor cases, comprise my year's surgical work.

In all my operative work I have made it a rule to wash my hands, and all instruments, sutures, ligatures, etc., in a one per cent. solution of carbolic acid. If I use the carbolic acid for the after-dressings I use it always in the weak

solutions. But I have formed quite a liking for the preparation of salacylic acid and tinct. of myrrh, which I have several times mentioned, as a wash for granulating wounds, more especially those wounds that are through mucus membranes. My formula is: Salacyl. acid one scruple, dissolved in tinct. myrrh four drachms, and then diluted with a pint of pure water. This is a milky mixture and needs to be shaken each time it is used.

FRACTURE OF SKULL.

BY THOS. M'DAVITT, M. D.

I was called to see J. B., a boy about 13 years of age, on Oct. 29, 1884. He had sustained a fracture of the skull, just over and at the right angle of the right orbit, from the kick of a horse. I found patient not totally unconscious, but in a somewhat dazed condition, with a large gash over right eye, from which blood was oozing. He had lost quite an amount of blood, judging from the numerous stains and bloody clothes. He was etherized, the outward wound enlarged almost to outer canthus of eye, and from one to two inches toward top of head, as I found the fracture of skull was much more extensive than the external wound. Found the upper edge of lower fragment pushed down upon brain and locked under edge of upper fragment. On account of a small portion of skull being entirely loose and easily removable, I was able to insert the elevator in the opening and elevate the fragment to position, after much labor. Close examination revealed a crack in skull clear around to right ear. After the edges of bone had been approximated as closely as possible and the wound stitched up, warm dressings of

hydrarg. bi chlor. 1-to-1500 were applied. During the operation 1-to-1000 bi chlor. solution was used. The warm 1-to-1500 solution was all the local treatment used. The progress of case was very favorable; not an untoward symptom developed, and the wound healed by first intention. Was able to dismiss the case in ten days' time with every symptom favorable.

The surprising result in this case may probably have been due to bi chlor. dressings. In the outlook it was certainly unfavorable, as the sharp edge of lower fragment had penetrated the dura mater to an extent of two or three inches. The patient was kept fully under the influence fl. et. ergot and the bromides for a week.

Before the introduction of antiseptics, we certainly would not have been justified in anticipating such favorable results.

ON THE TREATMENT OF NASAL POLYPI BY POWDERED TANNIC ACID.

BY P. A. HEITZ, M. D.

The general practitioner is often consulted (at any rate in the commencement of nasal polypi). It is well known that nasal polypi are seldom or never single, and that, after having removed all the large ones with the forceps or wire noose, there is too often a crop of young ones left behind, which soon sprout up and involve a second or third, and often several operations, before they are all got rid of. After removing them, my plan is to blow the powdered tannin into the nostril freely every day for several days, for the purpose of withering up the young gelatinous shoots of the brood left; and in this I have been quite successful. During the past two or three years I

have used it in several cases, with a perfect result of destroying the smaller ones. A few grains of tannin are put in a quill, which is inserted as far as possible into the nostril, and then with a strong puff the powder is blown out over the mucous membrane, and by this means they shrink up and fall off, and leave a clean surface.

REPORT OF DR. CONLEY.

I wish to report a case,—not because of the success of the operation, but from its rare occurrence.

The case was congenital absence of the anus, with an opening from the bowels into the bladder. The child was a boy, and the feces oozed almost continually through the penis. I made the usual operation, cutting down about one inch, striking, I presume, the rectum, which I drew down, cut and severed to the skin on either side of the incision. This was followed by a large discharge of feces, and from that on there was no more oozing from the penis. The child passed its urine regularly from that time on without a sign of feces. The wound seemed perfectly healed in about a week.

I operated when the child was six days old. It was very small, only weighing five pounds. At the time of operating the bowels were hugely extended, but this rapidly disappeared after the artificial anus was made. The mother had no milk for the child, so an attempt was made to bring it up on cow's milk, which was a failure, and the little fellow died six weeks after the operation. The case was nine miles in the country, but I saw it twice after the wound had healed, and know that that had nothing to do with the death of the child.

REPORT OF CASE IN PRACTICE.

BY ARTHUR YOUNG, M. D.

On Friday, September 3d, I was called into the country twelve miles to see a German farmer, age 40, strong and robust, and of good habits. Since the Monday previous had suffered from rather severe pain through the lower jaw and throat, especially of the left side, but there had been no appreciable swelling until Thursday. When I saw him Friday morning, the swelling involving the left side of throat and jaw, the salivary glands and tongue, was so considerable as to entirely prevent speaking or swallowing, and I found was beginning to interfere with respiration, and was so recent an attack of an extraordinary hardness.

I made a deep incision into the sub-lingual and base of the tongue somewhat to the left of the median line, giving exit to considerable granous blood and serum, but no pus. The relief experienced was prompt and decided. I left him able to speak and swallow, and with his respiration all right.

I saw my patient next day, when suppuration had commenced in the track of the incision. The swelling was increasing, but as there was no interference with the functions previously involved, it was thought best not to make any further incision.

On Monday a messenger brought me word that he continued quite comfortable, although the swelling was still increasing. I saw him again early Tuesday morning. Since the day previous the swelling had increased rapidly, and was now enormous, and of an almost stony hardness. It involved the left side of the face and neck, so that face, neck and shoulder were about on one plane. Speech and

deglutition were again abolished, and, as before, respiration was very dangerously interfered with. There was very little pus from the first lancing, and no evidence of suppuration in the tumefaction. I again made a pretty free incision deep into the swollen tissues, from which, in addition to the dark granous blood and serum, there exuded some ill-conditioned pus, though there was no attempt toward the formation of an abscess. Again there was great relief. I remained some time with him and left him comfortable, able to drink and speak readily.

He was from the first very obstinate about carrying out the directions given; and after I left he insisted on being up and making arrangements about his threshing. About 11 P.M. he went to the water pail, apparently drank freely, turned around struggling for breath, and died almost immediately.

There was no post mortem, and your readers may each for himself determine the cause of death, and also have the privilege of criticising what was or was not done in the line of direct surgical interference. As to the treatment outside of that, it would probably be of little interest, as it seemed to have little influence over the course of the case.

REPORT OF DR. WEDGE.

Nels Johnson, Danish, age about 25, was taken sick on or about the 26th of July, 1883, in Jackson County, in this State. He says he thinks he over-worked and took cold. The most distressing symptom at that time was retention of urine. He called a physician and the urine was withdrawn by means of a soft gum-elastic catheter. A slight accident occurred during the operation: the catheter broke and a small piece of the instrument was either left in the urethra or bladder; but in a short time the piece passed away and he thought all was well.

The above history I write as told to me by the patient. I did not see him until the 1st of October following. I then found him suffering from cystitis. Very little urine could be obtained without the use of the catheter, and with it an immense quantity of mucus and pus. His general health was rapidly breaking down, and it was evident he could not endure his suffering much longer. I introduced the sound and soon heard the click that indicated a stone. As there was no time to he lost, I concluded to cut for it as soon as I could get him into a room. It took seven days to obtain a room and get it in shape for him, but on the 9th day of October, everything being ready, I did the laternal operation of lithotomy. After the incision was made there was much difficulty in seizing the stone. I thought it was very light, and when I came to remove it I found it to be a piece of gum catheter about two inches long, all covered with incrustations.

The patient endured the shock of the operation quite well, taking into consideration his prostrated condition, though he was a long time in getting well. The cut into the bladder kept open very much longer than usual, and the discharge of mucus and pus from the opening was fearful; but it closed up after a while, he gradually recovered

his health, and is now well as ever he was, with no symptom whatever of bladder trouble.

I will say in conclusion, be careful about the use of soft gum catheters. After they have been used several times they become rotten, and you are liable to have a piece pinched off in the bladder. This man endured a great deal of suffering and came very near to death's door,—all the result of carelessness in the use of the catheter.

Again, before you determine to perform Bigelow's operation, do not fail to learn everything in the history of the case. I thought of trying that operation in this case; it was lucky that I did not. I do not think that a piece of soft gum catheter would be a good thing to crush with a lithotrite.

OBSTETRICS.

LIZZIE R. WASS, M. D., CHAIRMAN.

Gentlemen and Ladies, Members of the State Medical Society:

Your Committee on Obstetrics, through their Chairman, acknowledge with regret their failure to awaken much interest among the profession of the State upon the subject for this report. Thinking to secure an abundance of material for discussion at this meeting, circulars to the number of one hundred have been sent out to as many members of the society, asking for reports upon all cases of interest which had occurred in the practice of those addressed, during the past year. But the number of replies have been somewhat limited. I thankfully remember those who *did* furnish us with communications. Several of the communications received treat upon the care of cases during the normal puerperal period.

Dr. Howell, of Red Wing, writes: "As to care of such cases, I beg leave to say, that since the use of the concentrated solution of boracic acid as a lotion during and after confinement, I have escaped all septic poisoning either by their own discharges or by transmission of poison by myself or nurse, it being my invariable habit to use soap, followed by the solution of boracic acid before all such examinations."

Dr. Hand, of St. Paul, sends the following: "I believe in non-interference generally in the first stage; assistance in the second stage, when it is prolonged over an hour, unless there are special reasons against it; and the

early removal of the placenta,—ten minutes being too long to wait."

Dr. Coon, of Northfield, contributes some items of interest, among which are the following: "I will say, that I am induced, for many reasons, to use the forceps much more often than formerly, and that I use less chloroform each year."

Thus we have the weight of the opinions of at least two of our members in favor of the early application of the forceps. Indeed, it seems that the use of the forceps is much more common than was formerly the case, and doubtless in many instances are the means of preventing serious and perhaps fatal results to mother or child. But, on the other hand, can it be that this frequent use of the forceps has any relation to the many cases of perineal lacerations we find among our gynæcological patients? Is there not a possible danger that the frequent use of the forceps may give the busy but less conscientious practitioner license to apply the forceps earlier in the progress of labor than necessary, in order that he may not be obliged to remain so long at the bedside of his patient, thus economizing his valuable time? and in this early use of the forceps cause lacerations, by the head of the child being brought suddenly and forcibly down upon the soft parts of the parturient canal, before nature has had time to prepare them for this great strain brought upon them? By the gradual descent of the head the muscles are prepared for the strain and tension upon them by gradual dilitation of the canal. Also, when the second stage of labor is terminated too rapidly these parts are in a comparatively dry and hard condition, the glands not having sufficient time to pour out their contents, lubricating and rendering the tissues elastic, and, as a matter of course, they are much more liable to bear the strain and to yield and stretch as in the normal labor. In the same manner laceration of

the cervix may occur through application of the forceps before the first stage of labor has fairly terminated.

Dr. Coon also remarks that an item of interest to him is, "that no mother has lost her babe in my practice during the present year;" also, "I think many children apparently still-born can be saved by prolonged and persistent effort with hot water bath and artificial respiration."

The above statement touches upon a subject of great interest to many physicians. It is acknowledged to be true, by many writers upon this subject, that children are said to be still-born when by great patience, combined with the use of baths, friction, artificial respiration, etc., the seemingly fatally asphyxiated child may be restored. Cases are upon record, and some of us can testify to the truth of the statement, that an hour, and sometimes even more than two hours, have been thus spent, and the effort is finally rewarded by the pleasure of seeing the child breathe.

But to return to the duties of the physician in cases of confinement. In a perfectly natural labor these duties are very few. Some one has coined the expression, "Meddlesome midwifery," which certainly is very full of meaning, and, when defined, equals "An undue interference with nature in a work which is pre-eminently her own." The puerperal patient is, in all respects, in a perfectly physiological state so long as no accidents occur to render her otherwise. In what other condition do we administer remedies where there is no disease to combat, or restrict diet when every organ in the system is in a healthy condition and perfectly able to digest and assimilate nutritious food, and yet in this condition, though normal and natural in every respect, nothing pathological whatever?

We are instructed by some to administer cimicifuga, in order that labor may come on sooner; others advise fl. ext. ergot, to cause uterine contractions, and various kinds of drugs for numerous reasons are used and recommended.

by many; and we are told the mother must have nothing but soups, broths, etc., for food during this period; also, we must prescribe various kinds of medicated douches before, during and after confinement, when there are no abnormal symptoms to indicate treatment. Drugs, douches, etc., are all good, and should be used at the first symptoms of disease; not before.

But, it is argued, these measures should be taken in order to prevent disease or accidents; and it must be acknowledged, in certain cases, wisely, as by the use of disinfecting washes during times of special danger from puerperal fever. But even in these instances the physician can do much toward shielding his patient from the germs of the disease by constant and thorough disinfection of himself as well as everything which may come in contact with the patient, thus preventing the disease from without, and by this means close the channel by which the germs reach the patient and so do away with the error of too much medication of the patient herself.

This is an age of progress, and he who advances an original idea, discovers a new remedy or invents an instrument, is the hero of the hour; which is as it should be.

But among the new ideas we must not forget that the All Wise Creator framed all the laws of nature, and we poor mortals cannot change or improve them. And it is useless for us to attempt to discover a remedy when there is no disease. Let us labor, therefore, to assist nature rather than usurp her claims. Every truly physiological condition has been ordered by this All Wise Creator, and so long as the laws of nature remain unbroken, a state of perfect health is the result; but so soon as a transgressor, in the form of accident or disease appears upon the scene, it is the duty of the officer in charge, the physician, to arrest such an offender and administer punishment in the form of drugs, washes, etc., and thus protect the precious charge entrusted to his care. And he must be ever

upon the alert, lest one of those insidious enemies enter unnoticed through some unknown or unthought of channel, and despite all attempts at arrest, claim the victim for his own.

SOME NOTES UPON ANTISEPTIC MIDWIFERY.

BY JAS. H. DUNN, M.D.

It appears to me that the most vital question demanding the attention of accoucheurs of the time is antiseptic midwifery, a subject in reference to which medical men might be classified as a certain humorist once graded mankind, viz., into three classes: those who think it is true, those who think it isn't true, and those who don't care whether it is true or not.

A constantly increasing class of very worthy men, including such leaders in this department of medical science as Thomas of America, and Schroeder, Schultze, Schwartz, and a host of others in Germany, are earnest advocates of antiseptic precautions in all obstetric operations. To be sure, a school of smaller fish follow in their wake,—dilitanti,—who make ridiculous antiseptic midwifery, like all else that they advocate.

Yet another quite numerous class, with far more prejudice than science, assume wisdom by laughing at the idea as a sort of foppery of the lying-in chamber. They draw much inspiration from such general surgeons as the great authority who returned from America to report with approval the opinion that "Listerism is the greatest piece of quackery of the age!" an authority whose reputation for heroic lying about statistics is only equaled by his talents as a surgeon and genius in other branches of modern learning.

The vast majority of practitioners, probably including the better moiety of our number, trouble themselves but little about the matter, following the good old ways in which they were instructed and in which they have achieved their successes.

A short experience in the clinic of Schroeder, in Berlin, where I attended a few cases under the supervision of his assistant convinced me that, to say the least, antiseptic midwifery is not to be despised; but, quite on the contrary, I believe the general introduction of its principles, applied with reason and common sense, would prove almost as great a blessing to obstetrics as Listerism has to general surgery.

Some of the more superficial rules, as observed in Schroeder's clinic, are as follows:—

1. When practical, the lying-in room is to be cleansed, and floor, walls and necessary furniture sprinkled with a carbolic solution before the beginning of labor. With the poorer classes, and, in fact, generally in private practice, this can only partially be done. The patient is placed upon a clean bed, the position of the child determined as far as possible by external examination, the external measurements of the pelvis estimated, and the external genitalia thoroughly disinfected by washing with soap and water, and bathing with a carbolized solution of 1 to 20.

2. The accoucheur removes his coat, rolls the sleeves to the elbow, and scrubs hands and fore-arms thoroughly with brush and soap, being particularly careful to cleanse the finger nails, after which they are washed in the carbolic solution.

3. The vagina is thoroughly irrigated with a liter of a mild, tepid carbolic solution. Examinations for vaginum are to be made as rarely as possible, the hand having always been just previously washed in the solution and lubricated with carbolized vaseline. Vaginal irrigations are repeated occasionally during the first and second

stages of labor. At the first digital examination the internal dimensions of the pelvis are to be noted as carefully as possible.

Placenta to be removed by compression through abdominal walls. Never introduce hand or fingers into uterus unless absolutely necessary, and then use all possible antiseptic precautions. Vagina to be irrigated post partem several times daily while discharge lasts with tepid carbolic, three per cent. solution, and perfect cleanliness of bed and patient observed. Inter-uterine irrigation to be used only in case of serious symptoms of infection.

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In miscarriages never introduce the hand or instruments for a retained placenta unless hemorrhage or the existence of septic poisoning renders it necessary; then chloroform patient, remove thoroughly and wash out the uterus. Septic infection in these cases is commonly introduced by the hand of the physician; in fact, Schroeder goes so far as to say it is always due to the attempts to remove the placenta.

No one who has visited the dissecting room or persons suffering from infectious diseases within forty-eight hours last past, is allowed in the lying-in room, and in case of such visits at a more remote period, only after thorough washing, disinfecting and change of clothing.

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As regards the most safe and valuable antiseptic in obstetric practice, there is still some difference of opinion, but the reaction from the very general use of corrosive sublimate to that of carbolic acid is becoming very marked on the continent. One of the latest and best brochures upon the subject with which I have met is that of W. Thorn, of the Woman's Hospital at Halle, A. S.: "Ein Wort gegen die jetzt ubliche art der anwendung des sublimats in die Geburtshilfe," Feb., 1885.

The following are a few statements and conclusions,

based upon a large number of well-recorded cases, which he details in a masterly manner:

With the exception of iodiform, none of the antiseptics upon trial during the past few years, have received such a general and sympathetic reception among surgeons and gynæcologists as corrosive sublimate. It has been praised by the majority as the *ne plus ultra* of all antiseptics; few dared to doubt it.

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As the matter stands to-day, one may well say that the praises were somewhat over-sung; and sublimate will very soon lose very much of the ground which it so rashly subjugated. This is especially true in the field of midwifery.

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Sublimate was taken into gynæcological practice, one may almost say, without criticism, Koch, doubtless with justice, reigns an authority in his special department as hardly another investigator of our time. Recommended by him, the remedy went on trial with a certain prejudice in its favor. The best results were expected with confidence, and hence one gave unconscious exertion to see those expectations filled, i. e., one practiced a more careful antisepsis than one had previously done.

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Concerning the question, can the result of Koch's experiment be accepted as absolutely trustworthy in practrice? Only this much may be said with certainty: they have not the infallibility which was hoped and expected.

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To Mikulicz belongs the credit of having first doubted them. He holds sublimate for the best antiseptic for prophilaxis, but improper for the disinfection of wound surfaces. Here the mercury unites, forming albuminates,

and the albuminates of mercury disinfect much less actively than sublimate or carbolic acid; hence the disinfecting power of sublimate upon wound surfaces is less than that of the common carbolic acid solutions.

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In general, all authors agree that a modification of present methods and extreme caution in the use of sublimate particularly *in utero*, are necessary. While Lauzer, in his last work, makes a few concessions, Fritsch believes that the use of sublimate will, in the future, be reserved to lying-in hospitals and very dangerous cases in private practice. Winter proposes to avoid direct poisoning by less copious injections of solutions 1-to-3000 and 1-to-500. Leopold takes about the same position. I believe Winter's proposition will in the immediate future be most followed. I cannot, however, agree with either Fritsch or Winter. *I believe that before very long the use of sublimate for irrigation of vagina and uterus will be avoided, and, indeed, for the same reasons, that they are already used more sparingly.*

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There is still ground to fear that vaginal, and still more uterine, irrigations, even if these weak solutions, will give rise to the same bad experiences as before.

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I would then state that sublimate for irrigation of vagina and uterus are on no account longer to be applied either *inter-partum* nor *post-partum*. Its place should be taken again by the carbolic acid in the solutions formerly used. For the disinfection of external genitals and instruments, as far as is practicable, and in disinfecting examiner and operator, one may still avail himself of the stronger and surer disinfectant.

These principles have been in operation in the clinic of Halle, A. S., since October 1, 1884, with complete satisfaction.

I may add that many of the best medical minds of Germany have never forsaken carbolic acid for sublimate, even during the height of the sublimate rage, and especially in obstetrics the tendency is rather to return to it than leave it.

The chief objections to antiseptic midwifery are chiefly two:

1. On account of the trouble to physician and family.

2. Because the deaths in pueperal women are comparatively few.

Both of these objections are only apparent. During the past five or six years I have had considerable obstetric practice, and, having tried both plans, I can state that antiseptic midwifery is perfectly practicable in private practice among nearly all classes, with much less trouble than the objectors would have us believe, provided only the practitioner is once fully accustomed to the antiseptic routine, and is disposed to use tact and common sense in broaching the matter to his patients.

As to deaths from pueperal septicæmia, I know of no statistics for this country; but according to Bohn, in Prussia, for sixty years (from 1816 to 1875) there were on the average each year 8322 deaths from child-bed fever per million births; or, in other words, in sixty years 363,624 women perished from this cause, while the deaths during the same period among females from smallpox was about 165,000, and from cholera 170,000—i. e., more deaths from puerperal fever than from both combined among females of all ages.

Schultze says:* To every married woman in Prussia there are on the average 4,114 confinements. The danger of puerperal death, 8.3 per cent., multiplies itself by the

* Sammlung Klinischer Vortrage, No. 247, pp. 1821.

number of her confinements. Thus every thirtieth married woman dies, perishing in the bloom of life of a disease which by greater care and knowledge of her attendants might have been mostly prevented.

The puerperal mortality in this country, I judge, is not very materially different, and unless it is wonderfully less, then certainly sufficient reason for our profession to exert its influence to limit the ravages of this clearly preventable disease. I have watched with painful interest the slaughter of women in Scott County by a certain old midwife, who is followed in her extensive practice by an array of funerals beyond all possibility or coincidence. Certainly more than one in thirty (I truly believe one in ten, and at times a yet greater proportion) of her cases succumb. They do very well for about five days or a week, then comes fever, and sooner or later, death. I have been called in time after time, with great regularity, a week after she had superintended a delivery where "everything went off well," to find puerperal fever. I believe, too, that most practitioners, if they were to keep careful note of the facts, would find that in fully one out of thirty of their cases symptoms of infection of greater or less severity follow. I attribute the bad results of the midwife to want of cleanliness, roughness and the frequency and recklessness with which she introduces fingers or hands into the uterus. I have seen her remove her fingers from the rectum and without washing remove the placenta. It is perfectly amazing to see what bungling treatment, by pulling, tearing and cutting, a woman will sometimes recover from without a bad symptom; but the silent though potent infection, once it is introduced into the system, generally proves certain in its action.

Certainly no intelligent thinker can object to carrying out antiseptic midwifery in so far as relates to the greatest attention to cleanliness, the careful disinfection of hands and instruments, the avoidance of putting the fingers into

the uterus when possible. The present condition of science certainly requires at least that much from every conscientious practitioner.

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Experience is still accumulating to show that irrigation of the uterus is not devoid of danger, and though a most valuable remedy, should be attempted only in cases of serious septic infection.

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I treated in April one case of placenta previa by the method of Hofmeyer, of Berlin, viz., antiseptic tamponade of vagina, until os would admit fingers; then pushing placenta aside, introducing hand and bringing down feet, which now act as tampon. The case was then left to nature completing delivery as slowly as possible. H. has shown very clearly the dangers of emptying the womb too suddenly in such cases. Happily both mother and child recovered, though the latter was asphyxiated.

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I had one case of puerperal septicæmia following a hard forceps delivery in a primipara. The temperature at first about 102°, finally rose to 104°, and, as the case appeared very serious, I was about to wash out the uterus, having, in fact, entered the womb for that purpose, as my attention was called to "something that had just come away from the patient." It was a piece of putrid placenta about three-quarters by one and one-half inches in area. The patient began to amend almost from that hour.

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March 5, I was called ten miles into the country to see a woman because of retained placenta. She had had a miscarriage at about the fifth month thirty-six hours be-

fore. I found her about the house, apparently as well as usual. No hemorrhage. The question which presented itself to mind was, ought I to attempt removal or follow the expectant plan? She was ten miles from a physician; a midwife had already made attempts at removal sufficient to make infection probable. Patient was uneasy because of its presence; hence I decided upon immediate removal. The os admitted but one finger, and I found after thorough trial that removal without chloroform was not feasible. Being thoroughly anathetized, it was removed after half an hour's hard work under antiseptic precautions. The attachment to the uterus was very firm. Patient recovered without a bad symptom.

REPORT OF CASES.

I present a brief summary of my last fifty cases, including services at the birth of three pairs of twins. Among them was one hydrocephalic and one anacephalic child; also one with spina bifida and talipes, one with imperforate anus and one mole. There were two footlings, five breech and one face presentation, in two the occiput was posterior.

Among the mothers there were ten primiparæ, two cases of post-partum hemorrhage, one of eclampsia and two of puerperal fever.

Forceps were used in seven instances. There were five partial and one complete rupture of the perineum, all of which were immediately and five successfully closed; also one case of painless labor from the beginning of the second stage. One child on the eighth day began menstruating, and so continued for four days. I saw it twice during the time, and made close verifying examinations.

I report an additional case as being interesting, for several reasons: On March 19th, I was called to Crystal Lake to attend Mrs. L. in her first confinement. Her mother died of consumption, but eleven brothers and a sister live, one brother having consumption at time of pregnancy.

As labor was apparently well advanced, I immediately made an examination, and was considerably puzzled as to presentation for some minutes, but finally made out a spina bifida of large size, and that the bony parts which could be touched were crest of ilium and part of spine, which could be reached by pushing the sac of the spinal tumor to them.

The body was doubled upon itself, making a very acute angle, with the tumor a presenting part. As the parts were already in the pelvis, an attempt to turn proved ineffectual; but under chloroform the legs were brought down one after the other, and the labor was completed.

The child, a male, had double talipes calcaneum, so that the feet lay upon the anterior surface of the legs,—a large spina bifida, so that the lower third of the spinal canal was exposed, and a slight hydrocephalia. It lived a few minutes. The mother suffered an incomplete laceration of the perineum, which was immediately closed.

On the third day the patient's temperature rose to 105°, indicating 100° on the following morning, and an increase to 105° again in the evening, with the most remarkable puerperal mania I ever saw, which almost wholly disappeared two days later; but for three weeks her temperature daily was above 104°, and three times above 106°, which indicated the onset of erysipelas, extending from the vagina over the lower third of the abdomen and left thigh. Quinine in 20 to 30 grain doses had no effect on her temperature, but anti-pyrine would reduce it almost immediately for a few hours, when it would return to 105°. While at first there seemed to be a union of the divided

perineum, after the attack of erysipelas two-thirds of the body separated, leaving only a union of a thin septam.

I need not enumerate the applied antiseptic washes, cold ice cups, etc., none of which seemed to modify the course of the fever. But in spite of all this the patient is making a complete recovery, which is very gratifying. She now rides to see me twice or three times a week, but requires soft pads for supports until she is sufficiently recovered to warrant the operation to restore perineum.

THE YOUNG PHYSICIAN'S FIRST SERIES OF CASES, AS OCCURRING IN GENERAL PRACTICE.

BY P. H. MILLARD, M.D.

Thinking it might be of some interest to the profession, I have tabulated some of the statistics of the first five hundred cases of labor attended subsequently to my receiving my degree in medicine.

The cases cover a period extending over ten years, and can be classified, if you desire, as "The young physician's first series of cases, as occurring in general practice."

My record shows that I have used the obstetric forcep in 13.6 per cent. of my deliveries. I deem this an unusually large percentage. As this community is largely composed of foreigners, who generally employ midwives, and a large proportion of these cases were for midwives, the percentage is easily accounted for.

I used the forcept more frequently in the first half of the series of cases than the latter. If I complete my second series of cases I think the proportion will be materially reduced.

Experience teaches me that there are more traumatisms

calling for surgical interference subsequent to labor following a too rapid delivery than a tedious one.

In my future reports I hope to separate the obstetric deliveries done for midwives and in consultation, from my general practice. By this means I question if the percentage of cases necessarily calling for the obstetric forcep shall exceed eight, or at most, ten per cent.

Experience and observation teach me that as the obstetrician becomes more dexterous with this humane instrument he is seized with an uncontrollable desire to use it upon the least provocation. The conscientious and experienced obstetrician knows that the prime essential of a labor is delivery with the least traumatism possible.

I made thirteen versions, with death to four children and one mother, the latter a case in a consultation.

Of five craniotamies, two were from deformed pelvis and three hydrocephalus.

Of three cases of puerperal convulsions two died.

Of two cases of partial placenta prævia both recovered. In both cases I separated the presenting placenta and made versions.

I lost nine mothers during the puerperal month,—five of puerperal fever, two of convulsions, one of peritonitis and one of pneumonia.

Other statistics being of about the same proportion for this number of cases, I will omit them here. I am unable to give the number of cases in which I used chloroform; I doubt, however, if it exceeds fifteen per cent. As with the obstetric forcep, experience teaches me to be more conservative with the use of this agent.

I think that in an ordinary normal delivery a woman's chances of a rapid convalescence is better without the use of an antiseptic.

I rarely resort to the use of opiates in protracted first stage of labor. Believe the proper time to apply the bandage to the mother is when she first gets up from her labor.

REPORT OF CASES.

BY W. L. LINCOLN, M.D.

The history of the year has been very much like other years with me. I have delivered with forceps a half dozen times where the patient was attended by a midwife, and have delivered three times by podalic version,—twice with living children and once with a dead child, in which case, as reported by the attendant, the water escaped two days before labor commenced. In this case I determined that the cord did not pulsate before reaching the child's feet, and I was of the opinion that the placenta was nearly or quite detached at the time.

One case of interest to me may be worthy of a recital: Mrs. M., a healthy young woman, mother of two healthy children, near the sixth month of pregnancy, twenty-four hours after a short walk on slippery sidewalks, commenced to flow a saneous fluid, which stained the napkins as would a small portion of blood, and a large amount of water. Her nervousness was allayed by mild anodyne treatment, and she was kept in the horizontal position, which she maintained most of the time for twenty-one days, flowing about the same from day to day, when labor set in. At the end of six hours she was delivered of a well-formed child of a six month's development, which lived and performed all of the functions of nature for seven days, when it died of infantile spasm.

The day following the birth of this child, in the same neighborhood, Mrs. L. awakened in the night to find herself drenched with ammotic fluid. She was at this time about in her sixth month, and was frightened beyond control. Thirty-six hours afterwards she was taken with a natural labor of ten hour's duration, and was delivered of a living child weighing four pounds, which grew from the

day of its birth, and is a healthy, well nourished child at three months. In neither of these cases was there a drop of ammotic fluid at the time of labor. The only point of interest in these cases was the length of time that the child of Mrs. M. survived, or that either child should have been born alive.

REPORT OF CASES.

BY W. L. BEEBE, M.D.

I send a brief report of twelve cases of eclampsia, occurring in my practice within the last six years, in about two hundred obstetrical cases. First, let me account for this unusual number of cases relative to the entire number delivered, by stating that the major portion of labor cases in our section are attended by midwives, too ignorant to appreciate the gravity of such cases, and who only call a physician when they think there is danger of immediate death.

This may also account for the large percentage of fatal cases. Fifty per cent. of my cases proved fatal. I saw none of this number until they were in that condition of intense and continuous topor, and some even complete coma, the result of many hours of convulsions.

Five of the six successful cases were seen soon after the commencement of the convulsions. To these, large doses of morph. sul. one grain was administered hypodermatically and chloral hydrat. by the rectum. Not forgetting to follow Lusk's suggestion, that "as soon as grave cerebral symptoms develop, the period of folded hands has passed." If, as he says, "it is very rare for the convulsions to cease previous to the expulsion of the child, and in the larger proportion of the cases they do cease after

the birth of the child," the indications would seem to be to hasten the emptying of the uterus, and not to act in accordance with the advice of the older writers, who said, "Attend to the convulsions and leave the labor to take care of itself." Even they would admit that to hasten labor increases the chances of the child's safety.

There would appear to be a more reasonable degree of uncertainty as to the method to be pursued in those cases of convulsions occurring early in pregnancy, say in the neighborhood of the sixth month. Two of my cases were at this period of gestation. One of them, at the time of my arrival, had had six convulsions in four hours, and was then unconscious, and continued so for twenty-four hours, having only two more convulsions. She then carried the child for thirty days and was delivered of a still-born. The other is still carrying the child, and is now at the seventh month, being thirty days since my attendance.

Touching the question of etiology, my faith in the truthfulness of the doctrine, that "uræmia is the fountain and origin of the evil," was increased by the presence of albuminuria in each case.

DISEASES OF CHILDREN.

C. L. WELLS, M.D., CHAIRMAN.

Mr. President, Ladies and Gentlemen of the Minnesota State Medical Society:

Your Committee to whom was intrusted the preparation of the report on Diseases of Children, have complied with the usual custom of addressing to the different members of the Association a circular requesting their individual co-operation, and soliciting original papers and the reports of cases of sufficient interest to be incorporated in the forthcoming annual report.

While duly appreciating the efforts of those who have responded to our call, we are reminded, nevertheless, by the smallness of the number, that but few medical men, amidst the engrossing cares of a busy life, find, or at least take, time to devote to literary work. It is a fact that to be admitted is but to be regretted, for the careful annotation and analysis of cases makes always more accurate and scientific practitioners, and preserves for the use and benefit of mankind facts and material that would otherwise be absolutely lost, and which, though seemingly of little value in themselves, when grouped together in ever increasing numbers in the grasp of genius, become important factors in moulding and guiding medical thought and opinion, and in advancing the cause of medical science.

"Robed in a little brief authority," and human, as we are, how natural the presumption that the same sentiments should be shared by all in like degree, and that in response to our appeal there should be an awakening of in-

terest spontaneous and generous, and as worthy of the subject as we had deemed the subject worthy in itself. Less appreciated, perhaps, by both medical men and by the laity, less alluring and more circuitous as a pathway to fame, your Committee would nevertheless, with real and genuine earnestness, urge the ever immediate and pressing demands of pædiatrics upon all members of the profession, and express the belief that no field offers more brilliant opportunities for conscientious study and investigation.

Not even the gynæcologist, that modern nimrod of the pelvis, having slain the awful salpinx, the brightest button on the bosom of fame and easily first in popular applause,—not even he, we say, before this count at least, shall maintain his claim for precedence without a challenge.

The physician, fresh from the tutor's hands, finds his first work among children. In the full tide of his power, with senses keen and experience ripe, they are with ever-perplexing problems pressed upon his attention, and cease not to command a constant share of his solicitude and counsel; until, by advancing years and failing powers, he is forced from the stage of active labor and stands himself in the sombre and ever-deepening shadow of his own second childhood.

Sir Henry Holland, in his "Recollections of Past Life," relates that on one of his annual vacations, while in Constantinople, he saw much of Ali Pasha, and that on one occasion he asked him if he knew of any subtle poison which, placed upon the mouthpiece of a pipe or in a cup of coffee, would cause death in a quiet way and leave no trace behind? Sir Henry replied to him quickly and sharply, that as a physician his study had always been how to save life rather than to destroy it.

This sentiment, expressed with such a manly indignation, was well worthy the distinguished physician who

uttered it, and might well become the inspiration of every medical man; to generalize it, is but to express a truism. It is certainly the chief, if not the sole end and aim, of a physician's life. However much we may value the good we do by relieving human suffering, we account those our greatest achievements in which we can see clearly that we have been indirectly instrumental in the saving of human life.

If we admit (and who will deny the proposition) this exalted and ennobling principle as underlying and giving direction to our energies the one conclusion, both evident and inevitable, is that in the whole field of medicine the most brilliant prospects that invite our enthusiasm are to be found in the domain of children's diseases. Here the work is most abundant and ever pressing, the necessity ever urgent, and the promise of success the most certain and the nearest at hand.

From countless little sufferers the cry for help goes up; it deepens into mournful cadence that may be heard in every land, and sweep in a never-ending wail around the world. It falls on no ear so quick to hear, no heart and mind so quick to feel, to interpret and to succor, as that of the true physician. The man who loves not children, and feels no pleasure in their guileless joys, is fit for treason only. To him who, with that patience that is always an index of the truly scientific mind, with that zeal that springs from love of his work, and with that confidence of power that comes from knowledge, devotes himself to diseases of children, there is certainly to come a measure of success, a genuineness of gratification that with a less ardent spirit could never have been realized. Excellence in results can only be obtained with a patience that never tires, an evenness of temper that is never disturbed, a tact that is ever fertile in resource, and a judgment that is founded upon knowledge and tempered by experience.

"The duty of a physician (says Prof. Meigs) is most per-

plexing, and unless he be gifted with a large share of patient and philosophic calmness most irksome and trying to the temper, so great indeed are the difficulties encountered by some in this branch of the practice of medicine that they never overcome them, but in the words of Dr. West, 'grow satisfied with their ignorance,' and will then with the greatest gravity assure you that the attempt to understand these affections is useless."

The faculty of speech yet undeveloped, unable to make known their wants or to describe their sensations, nay even the real cause obscured and dwarfed by apparently essential yet really reflex aad secondary symptoms, the physician is thrown entirely upon his own resources and finds here a test of his knowledge and acumen as a diagnostician that he rarely meets with in older subjects. The ignorant man, the careless man, the man without the time and inclination to carefully investigate each and every case and to follow up the obscure and often misleading trails of symptoms must be prepared for many surprises, and for mistakes that may be disastrous in their consequences, and that will require in defence of his threatened reputation all the skill of an accomplished advocate to prove that a supposed blunder was rather a kindly dispensation of an overruling providence. The mortality of infancy and childhood is something fearful to contemplate. Familiarity with it like association with every form of evil has brought an easy tolerance of its hideous visage. It is a matter of little concern that thousands of children are annually slain by intestinal inflammation; but when an invasion of Asiatic cholera is imminent and the lives of men and women are threatened, there is fear and anxiety on every hand and all the resources of science are invoked to bar its entrance and check its progress.

With feeble powers of resistance, from the very hour of birth the integrity of their lives is threated at every point. To heredity, to the sins of the dead as well as to

the sins of the living, to neglect and exposure, to the offenses of foul air and death-breeding homes, to improper feeding and to infection with all her noisome brood, may be traced the dangers that lie in their way and gather so thickly about them. Of the total mortality over fifty per cent. are under five years of age and twenty-five per cent. under one year. Prof. Henoch says that of twenty-two hundred and twenty-seven children under two years of age treated at his clinic, seventy per cent. died, and of those under six months eighty per cent. were lost. There is everywhere a painful monotony in this picture of infant mortality upon which we would gladly close our eyes. The cradle is but too often the measure of the coffin. The joy that a child is born is scarcely felt before it yields to unwholesome cares and solicitude lest the slender thread of life may be too quickly severed. Assailed by fears that too often materialize, under the spell of superstitions that are a heritage from generations past, tossed in doubts and beaten about by the conflicting, gratuitous and obtrusive counsels of officious and meddlesome neighbors, the life of a young mother is often pitiable in the extreme.

In the midst of discouragements, however great, it is the part of brave men to be always hopeful: and in the possibilities of the future of childrens' diseases we have a faith that cannot be shaken. We indulge in no Utopian dreams; neither would we be deprived of the inspiration of expectancy. Without this incentive to action and research, how stale and profitless the work at hand, how quick to drop the spirit of enterprise.

The span of one man's life brings us to chaos, to a time when medical men were everywhere groping in the dark with here and there some more resplendent genius shooting like a meteor across the sky.

The science of medicine is to-day but in its infancy; in its full maturity what beneficence of spirit? What ma-

jesty of power will be hers? The field has rapidly broadened and the horizon visibly widened within the memory of men not yet beyond their prime.

The demands of medicine upon its disciples at the present time are such as to tax to their utmost limits the capabilities of the best minds. Upon its every follower who would succeed is laid the injunction of a broad and liberal culture. But a few years ago the requirements of the general practitioner were largely satisfied in calomel jalop and the lancet.

> When patients do to me apply,
> I physics, bleeds and sweats 'em;
> If after that they choose to die,
> What's that to me? I lets 'em.

Thus wrote John Lettsom of London scarcely more than a generation ago, and in these lines are condensed whole chapters on the theory and practice of medicine in his time.

Disease was then a thing to be assailed blow upon blow. The patient rather is now the recipient of the physician's attentions, the disease being often wisely and safely left to take care of itself. Then no thought of hygiene, of sanitations, of quarantine! Now the highest and noblest ambition of every medical man is the prevention of disease. To-day indeed there can be no successful theory without a scrupulous attention to all the details of an advanced and progressive hygiene.

With a mortality so great, and scarcely diminishing, with difficulties so many and seldom wanting, your Committee is constrained to believe that even now too little attention is being bestowed upon the work of preventive and too much reliance upon the curative power of drugs.

To every philosophic mind it would indeed be a matter of surprise that a determined, concerted and systematic effort in the direction of the prevention of disease should

not be the settled and working policy of every organized body of medical men. Hand and hand with this subject and almost of equal importance, yet a duty scarcely felt at all, is that which every physician owes to the profession and to the public as an educator and teacher, not only as regards those things that should be known and are not, but also with a view of setting free the popular mind from those common beliefs and superstitions that, pervading all classes, are pernicious in the extreme and are often concerned directly in the defeat of our best directed efforts. This duty becomes still more clearly defined when we bear in mind that many of the errors in domestic practice, as well as false beliefs, were the cherished convictions of our forefathers in medicine.

Let it not be forgotten, moreover, that quackery lives upon and thrives by virtue of popular ignorance and overweening credulity, and that the best educated as well as the most ignorant and lowest classes of society are to-day and have always been in these particulars at least on terms of equality. The pertinency of these suggestions to our theme will appear when it is remembered that of all classes of patients, children are by far the most helpless, the most experimented upon and the most often the hopeless victims of ignorance, superstition and a multitude of counsel.

While attempting no general resume of the year's work in diseases of children, there are nevertheless certain subjects of such primary importance that no report could be considered complete or acceptable that should fail to call your attention to them. Of such absorbing and engaging interest are they, that with every gathering of medical men they are subjects of anxious and earnest inquiry and discussion.

SCARLET FEVER.

As regards the curative power of any drug in the treatment of scarlet fever now in our possession, we are not in advance of our fathers who lived and practiced fifty years ago. It is rather by virtue of better methods in the general management of the disease, in an improved and rational hygiene, the careful conservation of the strength of our patients and the sterilizing of the soil upon which the poison thrives and by which its destructive tendencies are intensified, that we can, as compared with the results of past experience, mark a progress both encouraging and creditable. To shorten or abort the disease we are as powerless to-day as in the distant past, before the science and attainments of which we boast existed even in imagination. But if we can neither shorten nor abort it, we may justly feel some measure of pride in our conscious and unquestiened power to prevent its spread. Our range of usefulness is shifted to a higher level, and, admiring our fathers for what they accomplished with so little to guide them, we may fairly felicitate ourselves that we are not unworthy sons.

In the accompanying report by Dr. Wedge of an outbreak of scarlet fever occurring in the southern part of the State, we have a striking and timely illustration of what can be accomplished by a system of quarantine, undertaken by faith and carried into effect with energy and determination. Of an unusually malignant type, and starting from the public schools as a center of distribution, if it had been left to pursue its own course, it would have swept through the town and carried death into many homes. Realizing the danger, the schools were closed, and a rigid quarantine established about the homes where it had appeared, with the satisfaction of seeing the outbreak as quickly brought to a close as its advent had been sudden and alarming. Believing that equally satisfactory results

will be found frequently practicable and always productive of the greatest good, we earnestly urge upon all members of this Association, in the presence of similar and all epidemics of scarlet fever, as well as sporadic cases of the same, the necessity of a faithful and conscientious establishment of a vigorous quarantine.

DIPHTHERIA.

Scarcely any disease has in modern times received so large a share of conscientious study and investigation as diphtheria. From the uncertainty that still overhangs its etiology and nature, and from the directly opposing views held by men conspicuous for their abilities and foremost among scientists, it is certain to remain for an inconsiderable period of time a subject for debate and the source of many conflicting theories and opinions.

Endemic in all large cities, it has appeared from time to time in epidemics of varying severity; and its visitations have been recorded in nearly every hamlet in the land by the desolate homes it has left in its track; at one time mild and manageable, at another it is so malignant as to be only the hideous messenger of death.

"The real virus that is the cause of diphtheria," says Eustace Smith, in his new book, "has got to be discovered." "In spite of many researches," says the London Lancet, "the precise nature of the diphtheretic virus is still in doubt." "It seems now highly probable," says Ziegler, in his recent text-book of Pathological Anatomy, "that diphtheria is due to an invasion of micracocci." "There can be no longer any doubt," says Loefler, "that the poison of diphtheria is due to a living organism." Lastly, there is a great difference of opinion among bacteriaologists themselves as to the morphology of the diphtheretic virus.

Where doctors who are the first authorities so widely

disagree who shall decide? To attempt to reconcile these conflicting opinions is a task upon which your Committee would be loth to enter. Yet in the midst of doubts and uncertainties like the foregoing, it is conducive to a complacant spirit to bear in mind that the study of bacteriology has so far produced no practical results in therapeutics. The positive knowledge that relapsing fever is caused by the spirillum has in no way advanced the treatment of the disease.

Of a more practical character is the question of the primarily local or constitutional nature of the disease. Upon this question also are held views diametrically opposed to each other, and that too by men whom we are accustomed to look upon as the highest authorities. It is however most certainly the tendency of all investigation to regard the disease as primarily a local one. Says Ziegler: "The virus enters the system usually by the mucous membrane of the pharynx, and it first of all sets up local inflammatory changes there." It is a doctrine both safe and encouraging, and it is to be hoped that future observations will establish its truth. Concede the local origin of the disease, and the more careful and general inspection of the throats of children becomes a self-evident duty.

Your Committee would urge upon this Society the principle that these little patients are entitled to the benefit of the doubt, and that especially during the prevalence of diphtheria should this inspection be made, and the slightest throat ailments (as enjoined by the Council of Hygiene of France) receive prompt treatment.

A third salient feature of the subject is the doctrine of the unity or duality of croup and diphtheria. Here we are again met by a diversity of opinion that it seems quite impossible to reconcile; differences too on the part of men whom we know to be careful, conscientious and

competent observers. The drift of sentiment, however, seems to be decidedly in favor of the unity of the two diseases.

In Great Britain, in Germany, and in our own country the profession is divided upon this subject, while in France the doctrine of unity prevails with practical unanimity. In the recent work on Diseases of Children by Eustace Smith there is no chapter on membranous croup, the subject being only discussed under the heading diphtheria. Whatever may be our own personal opinion on this subject, our patients are here also, as always, entitled to the benefit of every doubt, and all cases of membranous croup, whether we believe them to be simple or specific should be immediately quarantined.

"There are (says Prof. Heroch) two kinds of diphtheria, the mild and the severe; the former recover spontaneously, and against the latter all remedies are useless." While recognizing in Prof. Henoch an earnest and experienced observer, we are nevertheless disposed to believe that there are many cases occupying a middle ground that if left to themselves would certainly perish, but that under a timely and judicious treatment may be rescued.

It is believed that mistakes in diagnosis are not infrequent, and that the value of much vaunted statistics would, if the facts could be ascertained, in no small degree be impaired by the result. The disease most often mistaken for diphtheria is follicular tonsilitis. In our own experience we have never seen the latter disease eventuate in diphtheria. Of common occurrence the clinical phenomena of follicular tonsilitis are of such constant and striking character that with reasonable care it can without difficulty be differentiated.

Dr. Quinby, the excellent health officer of Minneapolis, has repeatedly followed up cases reported to the health office as diphtheria only to find instead follicular tonsilitis.

Your Committee has no scheme of treatment to unfold. It is within the power of the humblest practitioner to apply a rational, intelligent and scientific therapeutics. While there is no drug that has a specific power over the disease, there is likewise no disease for which there is so large a relay of remedies that may be made to subserve a useful purpose. A vigorous quarantine is in all cases imperative, nor should it be too speedily relaxed. Dr. Downes of England, in the Practitioner for January, 1884, dwells with emphasis upon the late infectiousness of the disease. "The balance of evidence stands therefore (he says) in favor, I think, of the not infrequent existence of personal infectiousness so late as six weeks, and possibly later, after an attack of diphtheria of trivial character."

It should ever be borne in mind that in diphtheria surprises are not uncommon; that we have to deal with a subtle and treacherous foe; and that whatever method or means of treatment be adopted should be based on a schedule of twenty-four working hours and pressed with unvarying regularity night and day. A vigilance that never tires is alone the price of success.

In Victor Hugo's Toilers of the Sea is described a rock not far from shore which the waves and tides sweeping over from year to year had fashioned into the semblance of a chair. Here at times the weary fisherman had betaken themselves to rest. Some, overcome by fatigue and lulled by the calm about them, had fallen asleep, and caught by the swiftly rising tide, were swept into the waste of waters and lost. Hence arose the proverb of this rock, "who sleeps perishes." We would inscribe these words over the portals of every home where diphtheria has its abode; we would write them in letters never to be erased, on the heart and brain of every medical man as a sign whereby alone he could fulfill the vows he made when, with the fire of youth, he stepped from the halls of his alma mater.

We would gladly pursue this subject in other directions and in further detail; the field is full of interest and ripe for culture, but we are admonished that time and your endurance have both a limit.

Free from the restraint of every hobby, we are nevertheless possessed of convictions that have passed beyond the power of argument. We would gladly be persuaded that every member of this Association had reached the same conviction and showed alike the reality of our convictions.

In diseases of children the principle of protection and prevention of disease impose upon us to-day an obligation both solemn and enduring; and in their consciences fulfillment is a promise of results not even dreamed of in our philosophy.

PHIMOSIS, AS A FACTOR IN THE DISEASES OF INFANCY AND CHILDHOOD.

BY R. O. BEARD, M.D.

It is a pathological truth, so constantly illustrated, that a great matter may be kindled by a little fire,—that it needs no particular demonstration; and I do not deem it necessary, therefore, to offer any excuse for recalling the attention of the profession, in response to the request of your Committee, to so trivial a lesion as phimosis. So clearly recognized a principle is it, that the slightest departure from the norm of anatomical structure, the most trifling perversion of physiological function, may be the first step in the initiation of serious pathological changes, that the seeming insignificance of a lesion is no longer warrant for its neglect, nor reason why apology should attend its scrutiny.

Yet, notwithstanding our recognition of this principle, it is a fact that the medical literature of to-day is almost barren of any adequate reference to phimosis as a cause of reflex disease in infancy and childhood, and it is frequently true that the condition itself is overlooked by the practitioner in his every-day study of individual cases of functional, not to say organic, disturbance. This is the more strange when we consider that phimosis has, apparently, been observed by the profession throughout the whole period covered by the history of medicine. We find reference to it in the Greek and Latin classics. The Arabian midwives saw in it, now rightly and now wrongly, the cause of various infantile disorders. The Ayurveda of the Hindoos unmistakably alludes to the unpleasant sequelæ of partial or complete stenosis of the preputial orifice. The practice of circumcision among the Jews, although a part of a religious ritual prescribed under the Mosaic law, undoubtedly had its origin in a belief, held by the law-giver, and possibly shared by the people, that the measure had a certain prophylactic value. The Jewish custom evidently attracted to the subject the attention of early medical writers, who described, more or less perfectly, the graver forms of phimosis, and occasionally traced out a causative relationship between it and some local or general maladies.

It is remarkable, then, that modern authors should have studied the subject with so little appreciation of its etiological significance, and that cotemporary students, with a few notable exceptions, approach it, despite the accumulating evidence of clinical fact, with so large a degree of conservatism.

Among the few who, within the past ten years, have contributed to its literature, the name of Dr. Sayre will at once be recalled. He is entitled to the credit of having introduced a discussion which has since developed some valuable testimony, but his personal researches were seem-

ingly swayed by too strong a current of preconceived opinion, and the very extravagance of his views has deterred many from conceding to them their just weight. Hughlings Jackson, Bartholow, Geo. M. Beard and Lewis Smith, have each added something to the history of the subject.

Two or three years ago a valuable paper was printed by Dr. Roswell Park, now of Buffalo, embodying a report of cases and a tabulated statement of the frequency of this perversion. Under the stimulus of his inquiries, I first applied myself to a study of phimosis as a cause of reflex nervous disease, and began a series of observations upon the genital organs of infants and young children with a view to this end. From a personal record of some forty cases, compared with the larger statistics of Dr. Park and others, I have drawn certain conclusions which, with a few of the facts upon which they are based, I desire to present to the Society:

1. Phimosis, in varying degree,—from slight preputial adhesions to extreme stenosis,—exists in 70 per cent. of young male children under ordinary conditions. Of course, in many of these the lesion is of the slighter form; but in fully one-half of the number a redundant prepuce is accompanied by marked stenosis of the preputial orifice.

2. As a general rule, phimosis is not a congenital perversion of structure, many authorities to the contrary notwithstanding. This, following the statement of its frequency, has an appearance of contradiction; but a careful observance of new-born babes will, I believe, carry with it the conviction that the lesion is usually of post-natal origin. In at least two-thirds of the male children examined at birth by myself and others, the prepuce could be readily retracted and has been found free of adhesions. And, further, so large a proportion of those children who make up the statistics of immunity from the trouble are new-born babes, that the inevitable inference is that in the

great majority of cases phimosis is *acquired*. I submit that this is, after all, the most reasonable view that can be be taken of the origin of this condition. The opinion that adhesions between the prepuce and the glans normally exists,—an opinion held by Stephen Smith and other writers,—is an error to be accounted for only by the frequency of their formation within the first few weeks of life, and by the common failure of physicians to examine the male genitals at birth. Nor does nature ordinarily work after so doubtful a fashion.

There is no analogy in human or comparative anatomy for the supposition that she establishes adhesions between two free mucous surfaces in order that she may impose the necessity for their subsequent removal. The prepuce at birth, as compared with the glans, is disproportionately large and long,—a suitable provision for the development of the organ,—and its normal retractability, together with the presence of large, actively secreting follicles beneath it, suggest that these free surfaces require to be kept scrupulously cleansed, and that to the common neglect of this hygienic practice is chargeable the rapid formation of bands of adhesion, the resultant shortening of the mucous membrane, the narrowing of the preputial orifice, the non-development of the glans, and the ensuing train of events. It is probable that only the most severe forms of phimosis have an ante-natal origin, and that these are, of course, progressively aggravated after birth.

3. It is hardly necessary to re-emphasize the fact, observed and stated again and again, that phimosis is a cause of local disorders of the genito-urinary organs in children. Cases of balanitis, urethritis and even cystitis, are recorded as having their origin in the irritation and uncleanliness incident to a tight foreskin, and the occurrence of the latter is very naturally explained by the mere fact of the continuity of tissue. I was called quite recently to see a child of eleven months, whom I found suf-

fering with a severe balanitis. Examination revealed a long prepuce with marked degree of stenosis and an unusually small glans. The parents informed me that the child had lately urinated with some difficulty; that he had suffered daily from attacks of supposed colic, which were relieved immediately by free micturition, readily induced by the external application of hot water to the region of the bladder; and that he had for several months displayed much nervous irritability. Having subdued the inflammation and allowed a sufficient time to elapse, I circumcised the child, finding, in the course of the operation, the preputial orifice barely large enough to admit the point of a fine probe, and the whole mucous membrane so much thickened and so closely adherent to the surface of the glans that its separation was a matter of some delicacy and required much time and care. So far, the results of the operation have been conspicuously beneficial. The embarrassment to free micturition, illustrated in this case, may well assist mechanically, as one or two writers have pointed out, in the descent of an infantile hernia, through a defective canal. It is surely something more than a mere coincidence that with this lesion so often coexists a severe phimosis.

Equally needless is it to offer more than a reminder that the irritation developed by an adherent or tight prepuce may lead to the practice of masturbation even in infancy. Dr. Hughlings Jackson reports a case of this kind—a fifteen months old child—in which circumcision secured the complete abandonment of the habit. Bartholow refers to similar cases. I have verified in my own practice the fact of cause and the possibility of cure by operation. I doubt if we fully estimate as yet the importance of this lesion in its local results.

4. A weightier conclusion and one which is still less adequately appreciated, is justified by the accumulated facts. In a large number of infants and young children

phimosis is the cause of reflex nervous disturbances, having a wide range of variance, both in kind and degree, and being susceptible of cure by circumcision. The character and gravity of these reflex ailments is affected, (1) by the extent of the preputial lesion; (2) by the measure of the child's nervous irritability, and (3) by his susceptibility to particular expressions of disease, or in other words, by his possession of certain weak points. Of course a reciprocal relationship exists between these factors in every individual case. Just as in one woman a slight laceration of the cervix will produce grave reflex results, while in another an extensive tear will be followed by no nervous symptom. So a phimosis which in one child will exist without impairment of health, in another will give rise to a persistent intestinal catarrh, and in a third will cause convulsions or a pseudo-paralysis.

Again, slight adhesions of the prepuce may, in the first place, be insufficient to develop unpleasant sequelæ; but their progressive increase may eventually bring on the worst results.

As stated above, these reflex evils are many and as variable as are individual constitutional defects. Obstinate cases of urticaria and eczema, resisting treatment, have been found to yield readily after judicious interference with an abnormal prepuce.

An infant, of good German parentage, the last of several healthy children, came under my care eight months ago. He suffered with an obstinate eczema, confined to the thighs, nates and scrotum, and with a very offensive ozæna. Both ailments proved unamenable to treatment, and the general health of the child was materially affected. I had noticed the existence of a tight prepuce, but the possibility of any relationship to be made out between it and the difficulties in question had not occurred to me. The development, however, of slight convulsions, led me to examine the genitals more closely, and I felt justified

in resorting to circumcision. To my surprise, after the operation had been performed, there was not only the cessation of the essentially nervous disturbance which I had expected, but also a rapid improvement in the eczema and ozæna, which now quickly disappeared under mild treatment.

Dr. J. M. Mackenzie, of Baltimore, reports similar cases of disease of the nasal passages dependent upon irritation of the genital organs, or, at least, disappearing upon the relief of the latter. So, also, gastric and intestinal catarrh of a sub-acute or chronic form, may, I am convinced, be initiated by the same offending cause. I have repeatedly noticed a tendency to such catarrhs in male infants who suffered with marked phimosis.

Dr. Roswell Park reports the cure of obstinate chronic diarrhœa in two children, respectively three and five years of age, who had preputial deformity, by the performance of circumcision. I have learned to account for these results upon the theory that the phimosis operates reflexly upon trophic spinal centers governing the nutrition of the skin or mucous membranes.

More than one author has hinted that this genital malformation may act as a reflex cause in the production of false diabetes, and Dr. Maxwell, of Delaware, reported (I think in 1880) before the American Medical Association, a case of abrupt disappearance of sugar from the urine of a patient upon whom he operated for phimosis.

It is a matter of common experience that enuresis may be produced in like manner, and it has been repeatedly proven that circumcision, or the removal of preputial adhesions, will suffice, in many cases, to break off the habit within a short time.

In many children so affected a remarkable degree of nervous irritability is manifested, a condition oftentimes existing which amounts to a species of infantile hysteria. It is but a step from such a state to the development of

eclampsia. The happy results of operative interference upon children of this claas very pointedly confirms the conclusion of cause. Two years ago I assisted a brother physician in an operation for phimosis upon his own child which immediately dissipated the nervous irritability he had shown. I have already referred to a case of similar sort in my own practice, which had progressed toward the development of convulsions, which were never repeated after the performance of circumcision. Dr. C. L. Wells kindly reports to me a case of like character, an infant of one year, in whom a condition bordering upon eclampsia was summarily cured, and the general health of the infant markedly improved by the same operation at his hands. I am also indebted to Dr. E. J. Brown for the notes of a case, which comes under the same category, in which repeated convulsions, traceable to no other canse, were arrested in like manner. From the same source I learn of a case, operated upon by Dr. A. H. Pooley of Columbus, in which epileptiform convulsions had been succeded by a pseudo-paralysis of both lower limbs, all untoward symptoms rapidly disappearing upon the removal of this exciting cause. Dr. Sayre operated, in two or three instances for phimosis in children who were affected with pseudo-paralysis or spastic contractures.

Grave as are these results it is not difficult to understand their origination from so slight a cause. It is as easy to conceive of a reflex irritation operating in one direction as in another, and the variability of the symptoms depends simply upon the nerve-center or groups of centers which are implicated. In so far as onanism is a consequence of phimosis, the latter may even be accounted, upon the records of our insane asylums, an indirect cause of insanity.

Conceding, then, the fact that phimosis may be the starting point for obscure nervous disorders in infancy and childhood, the question naturally arises: What be-

comes of the large number of cases in which phimosis is present but does not develop such consequences and hence is not removed. Undoubtedly the great majority of these boys are afflicted with the trouble in its slighter forms, which are, as it were, outgrown, removed spontaneously by the gradual breaking up of adhesions as puberty approaches and the organ develops. If, after this age is reached, the deformity persists, it is apt to induce even more formidable results. The consideration of these lies outside of the domain of children's diseases, but I believe that no case of nervous disease, commencing at this period, should pass under the physician's care, without his inquiries as to the possibilities of such a cause.

In conclusion, I have only to hint an opinion, which I cannot as yet advance as a theory, that a condition analogous to phimosis may be occasionally observed in female children. An abnormally developed clitoris, or its confinement beneath a constricted preputial covering, accompanied sometimes by a constricted urethra, may be the cause or causes of reflex nervous disorders in girls.

In application of the foregoing facts:

1st. Should it not be laid down us a principle of practice, that suitable efforts should be made to retract the prepuce at or soon after birth, and that the physician instruct the parent or nurse to carefully cleanse the parts?

2nd. Should not the occurrence of any persistent disorder, possible of reflex origin, excite suspicion of phimosis as a cause?

And 3rd. If existent, under such circumstances, is not its prompt removal indicated?

However desirable might be the indiscriminate practice of circumcision, alien custom and popular prejudice are in the way of its universal adoption, but all the more needful is it that the practitioner should be alive to its occasional necessity.

ACUTE ARTICULAR RHEUMATISM.

BY J. C. ADAMS, M. D.

Male infant, age six months. Exposed on a rainy day June 15, 1884; taken that night with fever, which had been continuous up to my first visit, June 22d. At this temperature 102.5° Fhr.; pulse 140. Several metacarpo-phalangeal joints, and a less number of second phalangeal joints of each hand, and the corresponding joints of both feet *distinctly* swollen; partial retraction of head and rigid spine. When moved, raises the suspicion of implication of fibrous structures of cervical vertebræ. Complications: slight bronchitis and otitis externa. Sodæ salicyl. ½ drachm, aq. dest. 3 ozs., a teaspoonful g. q. three times an hour. Wrap hands and feet in cotton wadding.

July 8th.—Temperature 101.5; bronchitis more developed; cough loose, but evidently excites pain, as it is suppressed; no evidence of pleurisy; sleep much disturbed; bowels have acted spontaneously from 3 to 4 times daily; stools greenish; countenance a little palid; swelling has disappeared from joints of both hands and feet. Has taken about 6 grs. daily of sodæ salicyl. since last visit. Nurses fairly well. Oiled-silk jacket and quinia sulph. 5-12 gr. twice a day.

Did not see child again, but was twice consulted within ensuing fortnight, and learned that the child was steadily improving and apparently free from pain when at rest, but manifesting pain in the neck and shoulders when moved, and in the bowels during evacuation of intestines or bladder. The interest in this case is in its rarity and the more prominent implication of the smaller joints; in fact it was never evident that any of the large joints were involved.

J. Lewis Smith says: "Under this age (fifth year) it is comparatively rare," and does not cite a case under three years. Meigs and Pepper: "Early infancy appears to protect, to a certain extent, against this disease." Rillut and Barthez allude to a case occurring at seven months; but the earliest age at which they met with it was at four years, in a single case. We have ourselves observed one case in the second year.

Ellis says: "Dr. Vogel records a case of well-marked acute rheumatism, etc., in a child one year and nine months old." With regard to joints usually implicated, Smith says: "The joints of the extremities are most frequently the seat of the rheumatic inflammation, but occasionally those of the trunk—as the inter-vertebral, etc." Meigs and Pepper say: "The local phenomena attending this fever depend upon acute inflammation of some of the *large* joints." Ellis says: "The *large* joints are generally the earliest affected."

REPORT OF DR. J. C. ADAMS.

Perhaps a brief sketch of salient features of a recent epidemic of lobar pneumonitis, though not limited to children, will be the best reply I can make to your circular of April 28. A few cases of erysipelas in city and adjacent country preceded the outbreak of croupous pneumonitis. Up to the 1st of March I had seen only two cases. The first few pleasant days of said month were followed on the 5th by a severe northerly storm with a considerable fall of temperature. With this atmospheric change, cases of pneumonitis increased rapidly. In the majority, both of adults and children, the disease was very obscure in its beginning, from two to four days elapsing before the physical signs were sufficiently developed to render

the diagnosis certain. In a few cases, in both adults and children, it simulated typhoid fever. In these patients, aged respectively three, four, nine, fourteen and sixteen years, the headache, gradual rise of temperature and absence of unequivocal physical signs, until third and fourth days, would have deceived me, but for slight delirium and prevalence of pneumonitis.

It is worthy of note that in all these cases an upper lobe, generally the right, was affected. In eight adults (the whole number treated) the disease began with severe pain in the hypochondria, and the crepitant rale developed in from two to four days. In one case (male, aged 23, in whom the characteristic sputa was abundant,) crepitation was at no time distinct, being masked by pleuritic effusion. The respective ages of these patients were seventeen, nineteen, twenty-three, thirty, fifty, fifty-three, sixty-five, sixty-five. Two only were females, aged fifty and sixty-five. In this adult group the disease was pleuro-pneumonitis, the pleurisy being in the ascendant. The maximum temperature of both groups ranged from 102.5 to 106.5. Of the twenty-one cases treated, only one had a minimum temperature as low as 102.5, and only one reached the maximum 106.5.

In the former case the disease was limited to a part of the upper right lobe; in the latter it involved the two lower lobes of the right lung. As a rule, malarial complication excepted, elevation of temperature was proportioned to extent of lung involved. A perfect remission was reached in from six to ten days, but the fever lasted, with gradually diminishing paroxyms for a week or ten days longer.

I witnessed only one decided relapse. The subject was a boy of four years, member of a family of four children, eldest seven years. All were living in a room 10 feet by 12 feet with an 8 foot ceiling. Two of the other children were sick when this relapse occurred and the child had

been neglected. The type of the disease was rather, though not markedly, asthenic.

In children maximum respiration ranged from 40 to 80; in adults from 30 to 50. In children maximum pulse rate varied from 130 to 180; in adults from 110 to 140, in the cases that recovered. The total mortality was one adult aged 50. She had been sick all winter; was not seen until the fourth day; was very much emaciated; was affected with double pleuro-pneumonitis.

Therapeutics: Both groups were treated on general principles. When seen early the comparatively robust were given minute doses of aconite for 24 hours. Carbonate of ammonia with ipecac was given for a few days until arterial tension was diminished and the pulse began to become more frequent. Brandy was then given in quantities of 1 to 4 ounces daily with milk systematically administered. Adults were given from 1-8 to 1-48 gr. morph. sulph. q. g. three times per hour, so long as pain or nervous excitement continued. Opium in the form of Squibbs Co. tinct. was given to children in 1 or 2 drop doses every 3 to 6 hours, when demanded by harrassing cough, nervous exhaustion, or insomnia. Great care was taken not to interfere with expectoration. Local applications were limited to continuous warm fomentations, linseed-mustard poultices and mustard plasters.

In the case of the boy aged four, in whom the temperature was 106.5, respiration 60 and pulse 180, at 9 A.M. on the seventh day,—having, because of suspected malarial complication, cinchonized him early in the attack, and thereby reduced temperature from 104° to 101° Fhr., and fearing in his present condition that collapse might result from an antipyretic dose of quinia, I had his trunk wrapped in a towel wrung out of ice water; had him enveloped in a blanket; sprinkled with the ice water every fifteen minutes for an hour and a half, and then dried and returned to bed. Temperature fell to 105° Fhr. It

reached that point, and remained at it one day for six hours on three successive days, but did not to my knowledge again rise higher. This child slowly recovered.

Regarding the question as to the local or constitutional origin of pneumonitis as still "sub-judice," suffer a few words as to its therapeutics. I have seen the disease presented under so many types and with such varied symptoms and complications, that I am persuaded that the physician who proposes a specific or a uniform treatment thereby betrays his inexperience.

In the winter of 1856, in Caddo Parish, La., I witnessed an epidemic characterized by distressing dyspnœa, headache, flushed or livid countenance. A free venesection in the first stage was so beneficial that, as a rule, those who were bled in time recovered, and those who were not died.

In the winter of 1858, in the same locality, the disease was associated with hepatic and splenic engorgement; there was headache, bilious vomiting, and, in some cases, slight jaundice. These cases were either shortened in duration or ameliorated by a single dose of one scruple to one-half drachm of calomel, administered early.

In the summer and autumn of 1863, after the retreat from Corinth to central Mississippi, the raw troops were fatigued by a perpetual drill, not to speak of other sources of depression. We had an epidemic of pneumonitis of a decidedly asthenic type. The worst cases were marked by a very low temperature—100° to 101° maximum, cold, clammy sweats, and the most distressing dyspnœa. The medical staff were young and inexperienced. We seemed to accomplish nothing with rubefacients, stimulants, etc. Finally getting desperate, the idea occurred to one of us to call in the lieutenant colonel, who had been a physician of note in his community. The doctor told us that he had encountered this form of the disease on the Yazoo

River. He recommend opium in stimulant doses. This controlled the dyspnœa and restlessness and brought about reaction, and the cases at once became manageable. We found that an average dose required was about one grain every second hour.

The corollary of the facts stated is that the practitioner should not expect a specific or uniform treatment of pneumonitis, but be content to apply his knowledge of the properties of drugs and other remedial agents to the special characteristics of the prevailing disease.

GYNÆCOLOGY.

BY MARY G. HOOD, M.D., CHAIRMAN.

Mr. President, Ladies and Gentlemen:

Your Committee, in presenting their report on Gynæcology, desire to thank those members of the Society who have so kindly responded to their request for assistance, and whose matter is given below.

In addition to this, your Committee ask your indulgence in taking a cursory retrospect of the advance in gynæcological science for the past year. Our attention is dircted most prominently to the treatment of fibro-myomata of the uterus by laparotomy. German operators have been discussing with not a little zest the indications for the operation, and are still highly conservative. While recognizing that the anæmia resulting from the disease greatly enhances the danger, yet the results of operative interference have not been sufficiently excellent to warrant it until hope has been abandoned from other sources. Kaltenbach is the most enthusiastic, having lost only one case in ten, and thinks the prognosis scarcely inferior to that of ovariotomy. He strongly advises early operations.

The question of which method of handling the pedicle, — extra or intra-peritoneal,—offers the best results, is still open. The intra-peritoneal method, while far preferable for many reasons, has not been managed with the same safety. Better results are obtained from it now than formerly, and Kaltenbach thinks that in "a short time it will be in the ascendant."

Prof. Schroeder, with his one hundred myotomies, fifty-eight of which were uterine amputations, treated all by

dropping the pedicle. So, also, Martin, in his sixty, but with less favorable results; the best that they could claim being about 23 per cent. deaths. The results of the simple myotomies was far better. Martin has used vaginal drainage from Douglas' cul-de-sac in his last cases.

In our own country, Dr. Emmet has covered the stump with peritoneum and dropped it into the cavity, and believes if myomotomy is to have a future it must be through this method.

The treatment by ergot, both hypodermically and internally, is still advocated as a radical cure in certain cases. Martin makes it a first consideration. Weidlow has made a collection of cases treated by oöphorectomy to ascertain the influence on hemorrhage and development of the tumor. The results he considers excellent. The menopause, with diminution in the size of the tumor, follow in a large majority of the cases. It is thought applicable to cervical tumors, and those of medium size or under. Treatment of interstitial myomata by enucleation through the internal wall and per vagina, is recommended for small tumors.

The endometrium has also been given considerable attention both by German writers and in our own country, by Mary Putnam-Jacobi, in a series of essays, which are certainly an interesting study, and we bespeak for them some enlightenment on this difficult subject.

Simple cleanliness is crowding hard upon the more elaborate antiseptic methods, and bids fair to nearly or quite supersede them. In a paper before the American Medical Association it was recommended to perform gynæcological operations under a stream of hot water, claiming perfect asepsis, control of hemorrhage, and no loss of time for sponging. The temperature of the water used should be 120° F. Baumgaertner (Germany) also recommends after laparotomy, instead of sponging the peritoneum to wash it with a stream of warm water, continuing

the flow until the stream returns clear, and then removing the water by sponges as it settles in Douglas's cul-de-sac.

Several operations are suggested for relief of retroversion, as uniting the posterior lip of the cervix to the posterior cul-de-sac. Dr. J. B. Hunter has tried this in a case where the displacement seemed to depend upon gravity. The latest and most promising operation, both for retroversions and flexions, is described by Dr. William Alexander, of London. He shortens the round ligament by cutting down on it at its point of emergence from the external abdominal ring, and, after replacing the uterus, looping up the slack ligament and fastening it into the wound.

Massage of the pelvic organs has also been elaborated to some extent. Its advocates claim for it the aiding of absorption of transudation-material, the stretching of cicatrices, and the promotion of circulation in the organs.

Cocaine has proved itself of some worth in gynæcology. Dr. Coon of Northfield writes: "The operation for lacerated cervix without the aid of ether or chloroform has robbed the operation of one great terror; but while I have dispensed with these anesthetics I have found the hydrochlorate of cocaine to answer perfectly well. Nor do I find any advantage in giving large drinks of whisky just before operating; it only serves to produce some rapid flights of the imagination. The cocaine, I think, is best applied by saturating a small piece of absorbent cotton and placing it over the part to be denuded, and this repeated a few times during the cutting, not only stops most of the pain, but seems to produce a rapid coagulation of whatever bleeding there may be. Thus, without whisky or chloroform, we can secure the co-operation of our patients, rendering the operation more pleasant, and much less to be dreaded."

In my own experience it entirely relieves the unpleasantness, almost amounting to pain, of the pressure on the

perineum. I paint the perineum, externally and internally, with a four per cent. solution, and the cervix with the same, then placing a small piece of cotton saturated in the solution on the perineum and another between the lips of the cervix, I allow them to remain while making my preparations for the operation. The cocoaine thus applied controls the pain for the first fifteen minutes, and by this time the perineum has become used to the pressure; but I have given up its use on the cervix, because of the increase of hemorrhage. The first effect upon the blood-vessels may be to contract, but as the effect passes off a corresponding dilatation seems to ensue. I have never tried repeating the applications. The pain of the cervix is so little, that most patients endure it without a murmur if they are rid of the discomfort to the perineum.

Speaking of trachelorraphy, the "masters" in our country seem more conservative with regard to the necessity of its performance than formerly. In the discussion of a paper read before the American Medical Association, out of eleven speakers four were in favor of operating in every case and seven opposed. Several, Dr. Marcy among the number, expressed themselves as operating much less frequently than formerly. Is it not true that the rapid growth of the science of gynæcology, the marked cures of certain cases, and the difficulty attending the treatment of purely nervous diseases, have made the gynæcologist overstep the legitimate practice of his speciality, both in the selection of cases and the persistence of treatment of unrelieved cases?

Within two weeks two marked illustrations of this have come under my own notice.

A lady from the country came to my office, in whom all local diseases had disappeared except a lacerated cervix which had not been repaired, and some uterine hyperplasia. She said that for more than two years there had been an application of some sort made to the uterus every

day and much of the time to the corporeal endometrium. I simply told her to go home and try what rest from treatment would do for the organ, and that I should certainly not be willing to operate until she had made full trial of rest.

Another patient said to me: "Well, doctor, you are the first physician that ever said to me that they were through treatment;" and she had many physicians in this country and Europe in thirteen years' search for health. Every woman that has any disability has learned to refer it to the pelvic organs; in fact, it is quite the fashionable disease, and doctors and treatment have largely taken the place of physical exercise and hygienic rules.

Dr. Goodell (Philadelphia) is reported to have said (I have not the exact words, but the sentiment has proved so true under my observation that I cannot but mention it as one of the advances of the day), that no organ of the body is so over-treated, and consequently so poorly treated as the uterus.

CASE OF INTRA-UTERINE FIBROID TUMOR AND OPERATION.

BY J. M. WHEAT, M.D.

Mrs. J., aged 48 years, living with her second husband, and mother of four children, applied to me for medical treatment June last.

History of her case, as given by herself, was as follows:

Five years previously she had leucorrhœal discharges which became obstinate; also frequent uterine hemorrhages with difficult and painful menstruation; œdema of feet and limbs and great difficulty in micturition and

defecation. These symptoms had all become so aggravated that life was burdensome.

Her last physician had discovered a pelvic tumor of some sort, but as yet its real nature was unknown.

This tumor of course became my first study. It was of great dimensions, filling the entire pelvic cavity and pressing very much upon adjacent parts. The uterine os was clearly made out and a sound passed along the walls of the uterus, but the attachment and size of attachment of tumor to uterus could not be definitely ascertained; at least I was not satisfied as to its size, but its location was to the right and well up toward the fundus of uterus. The tumor was insensitive; acupuncture did not cause the least sensation, and there did not appear to be hemorrhage when the tumor was lacerated. My diagnosis was fibroid tumor, and the only question was, could it be removed?

The patient was very much reduced, entirely unable to travel, but seemed determined to take the chances of an operation, though they were such as the country afforded.

Having prepared the case as well as possible, and being assisted by Dr. Haskins of Canton, I proceeded to operate for removal of tumor.

The patient was placed on a long table, and when thoroughly etherized put in the position of operation with forceps in labor. Forceps were then applied to tumor, steady and continued traction made, until the most dependent and largest portion escaped from the vulva. Digital examination now revealed the os widely dilated, the uterus partially inverted, and pedicle of tumor, broad and firm, attached high up on the right side of uterine walls.

Continuing the operation, the chain of an ecraseur was made to encircle the pedicle as closely as possible to walls of uterus and cut its way out. The tumor now disengaged was readily delivered. It was a dense fibrous

mass, measuring thirteen by fifteen inches in circumference and two and a half in diameter at point of excision. The after-treatment consisted in filling the vagina with carbolated cotton plugs, removing them and washing out the parts with a weak solution of carbolic acid, alternated with a weak solution of permanganate of potassium, several times daily.

There was but little hemorrhage after the operation, the leucorrhœal discharge entirely disappeared, but a discharge of pus set in soon after and continued without interruption for two months, when it subsided under the use of a solution of nitrate of silver.

The patient gained rapidly and was sitting up in three weeks; has continued to improve up to the present time. There has been no return of old symptoms of the tumor nor recurrence. Would not those symptoms have appeared before this time? or if there were other tumors growing, would not the same train of symptoms be on hand by this time? Operation was performed July 8, 1884.

UTERINE INJECTIONS.

BY P. A. HEITZ, M.D.

Of the various subjects connected with gynæcology, no one, perhaps, has given rise to more diversity of opinion than the propriety of injecting the cavity of the body of the womb. Fortunately the lesions of the uterus and its appendages, which produce hemorrhages, throw off the blood through the uterine cavities, else many cases of menorrhagia and metrorrhagia would result in intra-pelvic hemorrhages, the blood escaping within the peritoneal cavity or around it as the case might be.

Numerous sources of hemorrhage are found outside the cavity of the uterus, and may be traced to the tissue of the uterus, the Fallopian tubes, the ovaries, the bulb of the ovaries, the pampiniform plexus of veins, the bulb of the vagina, and even to the utero-ovarian artery; all of which so intimately inosculate, that pathological or exalted conditions of either may constitute a cause for a uterine sanguinous flow.

Hemorrhages from the uterus proper are produced by polypi-fibroid tumors, subinvolution, chronic inflammations, metretis and endometretis, granular erosions and fungous growths upon the mucous tissue, flexions and versions, cancer and cancroids, and in the United States too frequently by abortion.

Puerperal conditions are sufficiently common not to warrant special attention in this paper. To those lesions which properly are outside the obstetrical accidents, but which belong to the sphere of the gynæcologist, is the treatment by injection particularly referable.

The pathologico-anatomical conditions may be summed up in a few words: First, alterations of function without morbid growth, such as are produced by emotional disturbances, mental depression, pulmonary or cardiac affections, excessive venery, fever sequelæ, etc., which may be, and most probably are, the reflex results of ovarian excitement producing an over-erection of the uterus, which exaltation gorges the uterine veins and arteries, or permits the flow through the Fallopian tubes directly from the ovaries, pampiniform plexus, the ovarian bulb, or even the utero-ovarian artery. Second, alterations of function with morbid growth as are above enumerated in speaking of hemorrhages from the uterus proper, (subinvolution excepted, which is arrest of retrograde metamorphosis.)

All works on the diseases of the female sexual organism are replete with the treatment of menorrhagia and metrorrhagia. Yet we frequently fail to benefit in the least

these conditions. For some years I have observed a number of cases, and although I have no notes of some of them, I have treated them principally by injections to overcome the alarming losses of blood. In many instances if we fail to immediately check the flow, our patients may be lost; or when it is not required to at once save life, we should offer every chance commensurate with prudence which will prevent a long and tedious recovery, retarded by profuse losses of blood or small drainings, as the case may be. Uterine injections are not devoid of danger, yet with proper care and management they are not to be regarded in the unfavorable light heretofore given by the profession. It is true the fluid thrown in may pass through the Fallopian tubes into the peritoneal cavity, and bring on fatal peritonitis or produce ovaritis, salpingitis, metritis, endometritis or embolism, the result of pathological thrombosis, yet I believe the fluid ought never to pass into the peritoneal cavity, and that the other results are so rare that they should now be considered as objections.

Why such deductions are drawn I will endeavor to explain. No injection should ever be thrown in, unless the internal os and the canal of the cervix be well dilated, sufficiently large to permit the introduction of the index finger, which allows of a free flow back of the fluid from the uterine cavity. The cavity of the uterus should be first educated by dilatation by sponge tents and the injection of tepid water; the water serves the double purpose of accustoming the cavity to the impulse of the stream and it also washes out any coagula of blood or collections of mucous shreds, etc. Now, with regard to the first proposition, the dilatation of the internal os and cervical canal always exists after the expulsion of the ovum in abortion, else the hemorrhage would cease, because proper uterine contractions always produce a closure of the vessels opening into the cavity by a species of thrombosis; if any

coagula, membranes, etc., remain within the uterus, it cannot contract, hence the necessity of getting rid of them, and the least dangerous method of doing so is by washing out with water or some other fluid of a bland nature. If the substances cannot be washed out, when the flow is threatening, we should endeavor to produce artificial thrombosis by closure of the gaping mouths of the bleeding vessels by means of styptics or irritants.

Again when the condition exists of alteration of function with morbid growth, we can dilate by means of sponge tents, should the cervical canal and internal os be contracted. This leads to a species of education of the uterus, which accustoms it to a foreign body, and dilates the sphincter-like internal os, so that it cannot contract spasmodically and force the fluid into the peritoneal cavity, or bring on uterine colic, which is in all probability something more than mere spasm of the uterus.

It is true that sponge tents sometimes produce most deplorable results. I have known metro-peritonitis to supervene after these introductions, of which the patient nearly died. Whenever the introduction of a sponge tent is followed by much pain, I always give instructions to be summoned and immediately remove it, and provide for an anticipated storm, by the administration of such remedies as any prudent physician would suggest, consisting of hot abdominal fomentations, opiates, etc. No sponge tent ought to be permitted to remain longer than six or eight hours when first introduced; if at the end of that time the patient shows no constitutional disturbance or depression the second and third tents may be allowed to remain a longer period, even for twenty-four hours, but under no circumstances beyond this time, as they become very foul and may give rise to septic fever, etc.

In chronic hypertrophy of the uterus, sponge tents are also very useful in producing absorption by compression, acting from within outwards. Just as a well applied

bandage promotes absorption of an hypertrophied limb, acting from without inwards. Every one knows that absorption of neoplastic tissue, particularly if the neoplasm in the uterus be the cause of the symptom of hemorrhage, promotes a return of healthy function; and in the uterus this is a most important consideration for rational therapeutics.

The method of injecting the uterus is one of no small importance. Sometimes, however, we must be guided by the urgency of the case and the circumstances surrounding it. Thus, for instance, on being summoned to a patient flooding profusely after an abortion in the second month, when the cavity of the neck and the internal os were well dilated, I have not hesitated to pass the syringe up into the very cavity of the uterus, and wash it out with cold water, and throw in a solution of one or two parts of Squibb's persulphate of iron to three or four of water. This, however, was an extreme case; yet the result was most satisfactory.

Again, I once used the hand ball atomizer, and sprayed the cavity in a profuse hemorrhage in a four months' abortion, with sesquichloride iron and water, three parts of the latter to one of the former; but when we have time we should protect the vagina and soft parts, and use such a tube as will render it almost physically impossible for any fluid so pass through the Fallopian tubes into the peritoneal cavity. A syringe absolutely air tight is also a prerequisite, else we might force air into the uterus, which in turn might provoke very serious consequences. When we have time to arrange everything necessary, particularly in cases of hemorrhage due to the presence of fibroid tumors or to hypertrophy or subinvolution, the fact should be explained to the patient that she is about to undergo an operation more or less hazardous. This candid statement always exerts a beneficial effect by schooling her mind and will, which enables her to render all the

necessary passive assistance to the surgeon in a strict obedience to his wishes.

The bowels should be opened by a mild aperient, which serves to unload the hemorrhoidal veins,the sponge tents, as many as are requisite, are then applied until complete dilatation of the cervical canal and internal os has been accomplished. After the removal of the tents the patient is placed on the left lateral, semi-prone position, the sinus speculum used, and the neck of the uterus hooked up by a double spring tenaculum, which is self-retaining, and always gives us complete control of the organ. A large silver catheter,—or a gum one, when the cavities are tortuous,—such as is used in washing out the bladder after lithotomy, is gently inserted to the very fundus, and a pint or more of tepid water, about 90 degrees F., is thrown in by means of an air-tight syringe, which washes away all coagula or mucus. The catheter is then withdrawn and examined to see if its canal be perfectly free, when it is again inserted and the vagina packed with cotton saturated with mucilage of starch. The starch serves to render the fluid injected innocuous. Should it be iodine that is used, the fluid then is slowly injected, and if the cavity of the uterus be very large, as in the case of certain fibroids, it is after a few seconds again drawn into the syringe and may be again injected and once more withdrawn.

This pumping out serves a double purpose, by not leaving an excess of fluid within, and also prevents its dribbling afterwards into the vagina, which sometimes give rise to disagreeable circumstances.

Patient still keeping the lateral semi-prone position, the catheter is gently withdrawn; and this, too, sometimes requires a good deal of nicety, as the contraction taking place about the internal os grasps the instrument with considerable firmness.

After the tube is out the cotton is taken away from the vagina, the tenaculum removed and all well sponged with

tepid water, and a second wad of glycerine-soaked cotton introduced. This completes the operation, and the patient is gently lifted on her back or side. The catheter, however, should not be open at its distal extremity, but should be perforated in three or four different places on the sides near to it. This precaution is necessary to break the current of the flow, and thereby prevents the possibility of shock from its impetus against the uterus, and also serves as a guard against the forcing of the fluid into the Fallopian tubes.

As the fluid enters the cavity of the uterus the patient usually experiences a burning, contracting pain, rarely violent, which seldom lasts more than six or eight hours, and frequently not more than three or four hours. Should irritative fever supervene there is some tenderness over the hypogastric region, which sometimes extends over the whole abdomen. Opiates, hot poultices over the abdomen and vaginal injections of warm water, constitutes the treatment when such exists.

In hypertrophy, subinvolution, or where fibroids exist, Sims is right in explaining the rationale of uterine injections when they act beneficially, as bringing about an endometritis, minus the suppuration stage. The hemorrhage is checked by the immediate septic or irritant effects of the fluids operating directly upon the hyperæmic intumescence of the mucous membrane, which is evidently very much contracted and produces a thrombosis of the blood vessels, ramifying in or adjacent to it.

When the production of plastic or adhesive inflammation, which Sims speaks of, takes place, following these injections, this in all probability is the result of a new action which arouses a metro-lymphangitis or metro-phlebitis, which does not progress as far as the suppurative stage.

Thrombi are evidently formed in the uterine vessels by what Klob calls "continuous apposition," and lead to a

complete occlusion of many of them which heretofore were gorged with blood, and which are easily ruptured.

Hemorrhages, most alarming in character, frequently follow abortion in the fifth month, or even somewhat earlier, even after the uterus is well contracted and all coagula or membrane detritus is expelled. This is explained by Virchow, and confirmed by Klob, by the fact that uterine contractions are not sufficient to arrest hemorrhage from the placental veins, and that closure of the compressed venous extremities is finally accomplished by a physiological thrombosis. The size of these thrombi must be in proportion to the contraction of the uterus, and consequently, according to the intensity of the endometritis, we find at the seat of the placenta small or large thrombi, which give the characteristic uneven and nodulated appearance to this part.

Certainly when uterine contractions exist, and firm ones at that, produced by the administration of ergot, and nature fails to set up this physiological thrombosis, it seems rational to account for the cessation of hemorrhage by the injection of cold irritant or styptic fluid, by the production of a species of mechanico-chemical thrombosis. As far as my experience goes, such has never yet run on to blood infection or been followed by embolism, the result of softened thrombi being carried off by the circulation and arrested in either the pulmonary or any other of the great blood vessels.

The methods of numerous authors in the treatment of certain forms of uterine hemorrhage have all been advocated or condemned, according to the judgment of various practitioners. It is not proposed to point out the defects or the benefits of any of them in this paper.

REPORT OF CASE IN PRACTICE.

BY ARTHUR YOUNG, M.D.

Mrs. H., American, age 27; highly nervous organization; general health feeble; married five years, during which she has suffered severely from dysmenorrhœa, until the last few months, when there has been marked amelioration; never pregnant unless now. She has missed last two periods, and is by her physician thought to be pregnant, while she and her husband are decidedly of the contrary opinion.

Walking out in the evening—early summer—and meeting a friend, she sat upon the somewhat cool and damp ground for some time. On returning home she was suddenly attacked with severe lancinating pain in left side near upper edge of iliac fossa, radiating in the direction of distribution of upper lumbar nerves. There was considerable tenderness with some abnormal, but imperfectly defined, fullness over the region indicated, [A considerable deposit of adipose tissue over abdomen interfered materially with satisfactory examinations.] The pain was soon relieved by anodynes and local stupes. After a cathartic the fullness mentioned nearly but not completely disappeared.

During the succeeding three weeks paroxysms of pain similar to the first recurred at irregular periods, the time between attacks varying from two hours to two days, and the duration varying almost as much.

She soon learned that remaining in a recumbent position prevented to some extent the frequency of attack, and therefore kept mostly in bed. At first there was little or no vesical irritation, but soon vesical tenesmus came with each attack, adding much to the distress. The tenderness over seat of pain was constantly recognizable, but not excessive.

From the first I thought the symptoms pointed with considerable clearness to the presence and passage of renal calculi as sole cause of all the trouble. I could, however, but recognize the *possibility* of extra uterine pregnancy, though still believing the *probabilities* decidedly against it.

During these three weeks of suffering Mrs. H. showed, as a consequence, but little constitutional disturbance, and it was hoped that only such conditions were present as involved no serious peril and which would soon yield to judicious care and treatment. But about three weeks from the first attack, at 4 A.M., on Monday, she was once more taken with pain in *kind* as before, but in degree so intense and agonizing that without relief death would have soon terminated the scene.

Naturally the question of diagnosis became of still greater import, yet among the hypothesis considered as capable of solving most satisfactorily the doubts attending the diagnosis, none seemed more so than that already held,—the impaction in the urethra of a large, rough caculus, resulting finally in rupture of the tube and the sudden effusion into the peritoneal cavity of the pent-up contents of the renal pelvis. Intense peritonitis followed rapidly on this Monday morning attack, terminating fatally on the following Saturday.

At the autopsy (which unfortunately had to be hastily conducted) the anticipated evidence of inflammation was revealed in the intense injection of the peritoneum, a considerable quantity of bloody serum (but no *lymph*) and commencing sphacelus of portions of the omentum and intestines.

Lifting the intestines so as to bring into view the left iliac fossa (setting at nought the diagnostic skill of the physician) there lay revealed the *origo mali* in the form of a large, firm coagulum—a veritable pelvic hæmatocele. In size it was as large as a good-sized head of a child at

birth; an almost perfect ovoid, moulded so as to be adapted exactly to the bed in which it lay. Easily raised from its bed, it was found to be attached by an extremely short pedicle to the left cornua of the uterus,—this pedicle consisting of the ovarian ligament and Fallopian tube, twisted so as to have performed more than a complete revolution on itself.

On examination the tumor was found composed of the results of more than one hemorrhage. The greater proportion of the coagulum was comparatively recent, and inclosed within itself the ovary, tube, broad ligament, etc. This hemorrhage had evidently occurred *into* the peritoneal cavity, though why it was not diffused, and why limited to the fossa, did not appear; nor does there yet suggest itself to me a reasonable explanation of this phenomenon. The earlier hemorrhages were apparently extra-peritoneal, the blood being effused into the tissues,so that those structures covered in and constituting part of the tumor formed by the more recent and larger hemorrhage, were by the earlier and smaller ones dissected up, infiltrated and torn apart wherever it was possible thus to do, until it was difficult to determine the identity of the structures involved.

Constituting a portion of the tumor under consideration, and situated within the folds of the broad ligament, were two cysts filled with bloody serum, the larger about the size of an ordinary orange, the lesser about half that size. These were near each other, and I think constituted the "fullness" mentioned as discovered at first examination. The uterus contained a three months' fœtus.

There are some points connected with this case which, were space available, I would be glad to briefly discuss, but forbear, thus leaving those who may read this epitome the privilege of thinking as they choose, without extraneous influences.

SPONTANEOUS CLOSURE OF A VESICO-VAGINAL FISTULA.

BY CHARLES DOLAN, M.D.

About ten months ago, a lady called at my office for treatment. She was anæmic, and had a care-worn appearance. She stated that she had been to see a good many physicians previous to calling on me, but none of them seemed to help her any. In answer to my inquiry regarding the nature of her trouble, she said that her kidneys were so bad that she was unable to hold her water. She knew no cause for the trouble (nor did I). In my mind I diagnosed catarrh of the bladder. I ordered her a tea made from uva ursi and buchu leaves, also nux vomica, and asked her to call again in a week.

She called; no improvement. I substituted belladona for the nux vom., continued the tea, and asked her to call again in ten days.

She returned in ten days quite discouraged; said she guessed I did not know any more about her case than her other doctors. I did not plead guilty. I now, as I should have done at her first visit, requested an examination, telling her that may be her womb was flexed forward on the bladder, and, if so, it would have to be replaced. She granted my request very readily.

The labia and internal aspect of thighs presented the usual appearance of incontinence of urine. I had no sooner introduced the speculum than my diagnosis was made, for I saw that the urine did not come from the urethra, but from the vagina. I found an oblong opening in the vaginal wall about one-half inch in length. Judging from its appearance it had been fully an inch in length. It was not difficult to pass a male catheter into the bladder and through the fistula into the vagina. I

changed my mind regarding the ante-flexion, and told her what the trouble was.

Thus far I have written to show the necessity for an examination in such cases. A patient may be perfectly honest and still deceive you.

I was not prepared to operate, and advised her to visit Dr. Stone, of St. Paul, and allow him to operate; but she said she could not afford it.

I noticed during the examination that she was suffering also with leucorrhœa. I formed a ball of cotton, concave on one side, which concavity I filled with a mixture of boracic acid and glycerine, and placed it against the os. I cauterized the granulated edges of the fistula, supported the anterior wall of vagina with a cotton tamphon; told her to remove all the cotton after twenty-four hours. Ordered citrate of iron and quinine, and told her to come back in ten days and I would operate.

I sent for what instruments I would need and did not have. My patient returned in due time, but did not come prepared to stay two weeks, as I told her she would have to do, because she said she was cured. I do not know whether it was the caustic, the boracic acid or the support of the vaginal wall, or all combined, that caused the fistula to heal; anyhow, it was completely healed, and apparently quite strongly. I did not probe any for fear I could find an opening.

I have seen Prof. Lusk, of New York City, operate on just such cases a great many times, which I now believe could have been cured, just as my case was.

I am sorry to be unable to report something more interesting or scientific. I hope that other members will respond with papers more complete.

RED WING, MINN., May 15, 1885.

Mary G. Hood, M.D., Chairman Committee Gynæcology, State Medical Society:

DOCTOR.—In reply to your card for report of work in your department during the year, I have no further reply to make than this, that during the year I have treated several marked lacerations of the os with compresses and glycerine, either alone or with boracic acid or iodine. In all cases where the condition was known to the patient (I make it a rule not to tell them of it), they have raised the question of operation. In none have I thought it necessary, and the result of treatment has been satisfactory. In systemic treatment phosphorus, in minute dose, 1-100 grain, either alone, in pill or with nux vom., has served a good purpose as a tonic, I suppose, to the nervous tissues.

Has not the time fully come for a systematic attempt to withdraw the attention of women who are sick, from the condition of the generative organs? Have they not been taught to look to disorder there as the principal cause of all their diseases? I believe they have, and that the belief has resulted in an untold amount of unnecessary misery, physical and mental—chiefly the last.

It seems but natural that you ladies who honor our profession should lead in the investigation of the facts in the matter, and point out the remedy. One remedy occurs to me, and it is systematic physical exercise, with the use of such baths and friction of the skin as shall help to maintain a better balance of blood distribution and muscular development. To this should be added a better ventilation and management of sleeping rooms; a better arrangement of clothing and the use of gardening, out-door games and walking. The custom of "camping out," now *fashionable*, and therefore available as a remedy, should be used to this end.

The admitted fact that the foundation of life-long ailments are laid in the management (or rather lack of it) during the years of puberty, and coincident rapid physical change and growth, make that period the best for beginning treatment, and some way ought to be devised to teach mothers what to do during this critical time. It must not be forgotten that it is the condition of our civilization and domestic life which make it critical. The condition and changes are natural.

Excuse me for trespassing on your time. I am not writing for publication; have written nothing but what has often been written before. But it should be written, and spoken, too, often enough to be attended to. I hope you will find some way of getting the profession to help you. I know of no need so great as that of healthy, hearty, vigorous women in our time. Yours,

CHARLES N. HEWITT.

OPHTHALMOLOGY AND OTOLOGY.

F. ALLPORT, M. D., CHAIRMAN.

Mr. President and Gentlemen:

Were this a meeting of ophthalmologists, or this Society doing its work in sections, I would endeavor to discuss with you a subject especially interesting to physicians making a specialty of diseases of the eye and ear. All papers, however, being read in open session, I have fancied I might make my remarks more interesting if confined to diseases of the eye most likely to fall, primarily at least, into the hands of the family physician. That the successful general practitioner often omits to post himself in the modern methods used in this specialty, is not surprising, for his time is all too short to easily read what is necessary in general medicine. However, he may be placed in a situation where he is compelled to act independently without any aid from a specialist, and it is with reference to these cases I invite your attention.

Probably conjunctivitis, in its different aspects, is as frequently met in general practice as any type of eye disease. This term, of course, signifies any inflammation of the conjunctiva or lining membrane of the lid, varying in intensity from a mere congestion, usually termed conjunctival hyperæmia, to chronic granular conjunctivitis. Various and many are the causes capable of producing conjunctivitis. Among the most prominent are coryza, overuse of the eyes, external irritants, contagion, unfavorable hygienic conditions, as found in thickly crowded tenement

houses, uncorrected hypermetropia, myopia and astigmatism. It is necessary, in order to intelligently treat conjunctivitis in its different forms, to appreciate its pathological variations. Some physicians treat all types of conjunctivitis similarly, and sulphate of zinc, two grains to the ounce, is the usual prescription. This solution possesses undoubted virtues in many cases, but it may be inert or harmful in others. For instance, in chronic granular conjunctivitis, where neoplastic growths are present, but little if any benefit would accrue from its use; while in simple hyperæmia it would be absolutely detrimental, being too vigorous an astringent and an irritant. In the latter affection mere rest of the eyes is often all that is required, or, if an adjunct seems advisable, the application of cold water to the outside of the lids, and a wash of borax, ten grains to the ounce, to the inside, will usually suffice.

From conjunctival hyperæmia to catarrhal conjunctivitis is but a step; and it is often difficult to determine where one ends and the other begins.

If not possible to make a differential diagnosis at once, the lapse of a few hours will indicate beyond a doubt with which disease we have to deal. The symptoms of catarrhal conjunctivitis are in every way more severe and pronounced, and, when well established, are not easily mistaken. Clinically speaking, the disease may be divided into three stages, according to the quality of the discharge. The first is characterized by a thin mucous discharge; in the second it becomes muco-purulent; and in the third distinctly purulent. The treatment of the first stage does not materially differ from that of conjunctival hyperæmia, but the second calls for more vigorous measures. We may here use sulphate of zinc or copper, one or two grains to the ounce of distilled water, or tannin, five grains to the ounce. When the discharge assumes a copious purulent character, more energetic care and treatment

must be enforced,—the patient be required to keep his bed.

The pus must not be allowed to remain inside the lids, as its irritating qualities are apt to prove dangerous to the integrity of the cornea. For this purpose a smooth pointed syringe should be frequently inserted between the lids, and a solution of boracic acid, about four grains to the ounce, injected.

A very simple and efficient method of cleansing and purifying the eye, and one that I have of late used very successfully, is the instillation several times a day of a few drops of the per oxide of hydrogen between the lids. The formula of this agent is H_2O_2, and it is so unstable a compound that upon contact with various substances, pus among the number, one atom of its oxygen is liberated. When, therefore, it is dropped into the eye, during the course of purulent conjunctivitis, the liberated oxygen forces the pus to escape, bubbling from between the lids. It is a good plan in using this remedy to tightly close the lids for one or two minutes after the instillation, that the oxygen may pass into the remoter portions of the conjunctival sac, thus inducing a more thorough cleansing. It may be used undiluted, but it is better to combine it with equal parts of water. Ice water should be kept constantly applied to the outside of the lids. In conjunction with this, a wash of nitrate of silver, two grs. to the ounce of water, may be dropped into the eye three or four times a day. Should the disease assume a diphtheritic character, an astringent wash, such as zinc or copper, should be substituted. If ulceration of the cornea occur to such an extent as to render perforation of the cornea altogether probable, a paracentesis through the bottom of the ulcer is conservative treatment. The division of catarrhal conjunctivitis into three stages, according to the character of the discharge, and the consequent diversity of treatment, you will therefore see, is not an

overdrawn nicety of distinction, but a practical and imperative rule that should always be our guide in dealing with this affection.

Of course you would advise good general care of the patient, as the maintainance of a normal condition of the bowels, quiet, rest of the eyes, avoidance of inclement weather, bright lights, etc.

Chronic granular conjunctivitis is frequently seen, and you are familiar with the fact that it is the sequence of an unrelieved acute inflammatory process. It is especially apt to occur in the lower grades of life, where unfavorable hygienic conditions exist, and is often exceedingly difficult to permanently relieve. It is very likely to be mistaken for a swollen condition of the conjunctival papillæ; but the term chronic granular conjunctivitis should always be restricted to absolute neoplastic formations in the conjunctival mucous membrane. These neoplasms are the objective point of treatment, and our aim should be to absorb them, and not to seek their destruction by caustics. In the latter method of treatment, nitrate of silver is usually employed, and is certainly expeditious, and, to the patient, often temporarily satisfactory. But, unfortunately, the use of this agent sacrifices the integrity of the conjunctiva,—and a cicatrix is formed. Cicatricial tissue always contracts, and no departure from the rule is found in this instance. Contraction of the conjunctiva naturally pulls the edge of the lid, together with the lashes, inward, which involves contact between the latter and the cornea, and may be followed by pannus, ulcerative corneitis and possible loss of the eye-ball. It will be seen, then, that the object of treatment is to absorb, and not cauterize, the granulations, even though this method involve a period of many months. The persistent use of smooth crystal of sulphate of copper will usually accomplish this, and is, perhaps, the application most in vogue. My favorite remedy is iodoform, applied as follows:

Evert the lid, and, with a sharp knife, gently make a few superficial incisions through the granules, thus causing them to bleed. After this has ceased, I gently rub into the conjunctiva iodoform, by means of cotton on a cotton-holder, usually alternating this application with the sulphate of copper. I am frequently gratified with quite speedy results. A cure will be materially hastened by instructing the patient to use at home, about once a day, an ointment consisting of yellow oxide of mercury, one or two grs. to a drachm of vaseline. A small piece of this preparation should gently be placed on the lower conjunctiva, from whence it will find its own way to the upper lid.

You doubtless often see cases of blepharitis ciliaris, or inflammation of the lash follicles. It is manifested by a redness of the edges of the lids, and the collection of scabs about the lashes. It may be caused by conjunctival or other irritation, but is usually either an indication of scrofulous or debilitated constitution, or some error of refraction. Aside from correcting the refractive error, should any exist, alterative and tonic treatment should be administered, as iodide of iron, cod-liver oil, etc. Local applications are also very useful. The marginal scabs should be removed once or twice a day by means of warm water, after which there should be thoroughly applied to the margin of the lids an ointment composed of citrine ointment one, and vaseline five drachms. Yellow oxide of mercury two grs. to the drachm of vaseline, is usually as efficacious. And the physician can expedite these cases by personal care about twice a week, when after the removal of the scabs he may apply a mild solution of nitrate of silver directly to the seat of the disease.

Allow me to say a few words with regard to opthalmia neonatorum, or the conjunctivitis of the new-born, and I will have finished with conjunctival affections. You are all familiar with the appearance of the disease, and with

the fact that in many instances cleanliness and the application of a mild wash of borax or alum will speedily relieve the little patient. But, frequently, the affection is so decidedly purulent and violent in its manifestations that more energetic measures must be at once instigated, or sloughing of the cornea, with its disastrous consequences, will occur.

A thorough examination of the cornea must be made, and, indeed, I may say, incidentally, that in treating diseases of the eye, an inspection of the cornea must always be made. Without it, you are never aware what irreparable damage is being done. If an examination cannot be made by ordinary means, a lid elevator should be used, and, this being insufficient, our object must be accomplished by an anæsthetic. But to return to our subject. If the secretion of pus is abundant, the lids must be everted, and nitrate of silver from 5 to 10 grs. to the ounce applied, which should be immediately neutralized by a mild solution of common salt. The physician should make these applications once or twice a day, according to the abundance of pus secreted. Perhaps an apology is necessary for mentioning the fact that whenever a strong solution of nitrate of silver is used upon the lids it should immediately be neutralized by a solution of salt; but, having several times seen most disastrous results follow a neglect of this rule, I have been brought to a realizing sense of its great importance. Beside the application of nitrate of silver, a solution of boracic acid 5 grs. to the ounce, should be dropped on the conjunctiva every hour, and the pus frequently removed by allowing a stream of water from a sponge or syringe to run through the eye, from one angle to the other. The per oxide of hydrogen clear, or in solution, may also be used in the manner described when speaking of purulent conjunctivitis. Ice-cold applications are very useful, and if the lids become inordinately swollen, the outer canthus

should be freely incised, that undue pressure may be removed from the cornea. Extensive corneal ulceration should be met by a timely paracentisis.

From conjunctival, we naturally pass to corneal affections of an acute nature, these being the only kind usually brought to the notice of the general practitioner. A rule, to which there are but few exceptions, in treating acute corneal inflammations and ulcerations, is to maintain a free dilation of the pupil, and keep warm applications of water, hop or poppy infusion on the outside of the lids. As adjuncts, the patient should be kept in bed in a darkened room, on a light but nutritious diet, and all stimulating eye-waters or ointments sedulously avoided. Should deep suppuration occur, rendering corneal perforations imminent, a free paracentesis through the bottom of the ulcer should be performed. This procedure accomplishes a double purpose. It first relieves corneal tension, thus allowing the ulcer a better chance to repair itself, and, secondly, a smooth incision is made instead of a ragged perforation, which naturally leaves a less noticeable scar where healing occurs. It is in chronic corneitis and ulceration that stimulants and absorbents are indicated, and of these, probably the yellow oxide of mercury, calomel and iodoform are the best that can be used.

The former should be made into an ointment containing two or three grains of the mercury, and a drachm of vaseline, and the two latter are used as powders. They should each be applied once a day, and the eye covered with a bandage and kept as quiet as possible, in order that the reparative process may not be interrupted by the lid continually rubbing over the ulcer and thus wiping away new tissue as quickly as formed.

I wish to say one word regarding the use of acetate of lead as an eye-wash. It is, unfortunately, quite popular, but I only mention it to condemn it. Probably you are

all familiar with the fact that when a solution of this drug comes in contact with a corneal abrasion, of whatever dimensions, an indelible white scar is the result. This scar is not only a deformity, but interferes materially with vision, and as these opacities are permanent, I think I am not too emphatic when I urge the total abolishment of acetate of lead as an eye-wash, especially since equally good results may be obtained from other remedies.

Iritis is a disease frequently brought to the notice of the general practitioner, and it should receive an early diagnosis, as it is during the primary stages that treatment will prove most beneficial. Adhesions soon become formed between the iris and capsule of the lens, which, if allowed to remain, will permanently interfere with vision and render the patient liable to frequent recurrences of the disease. Conjunctivitis is the only disease with which iritis is likely to be confounded, and a careful consideration of the points of differential diagnosis should render this mistake impossible.

In iritis the injected blood-vessels are deeply situated, rosy in color and radiate directly from the cornea. In conjunctivitis the injected blood-vessels are superficial, bright scarlet and irregularly situated throughout the conjunctiva.

In iritis the pupil is sluggish or immovable; in conjunctivitis it dilates and contracts freely.

In iritis vision is impaired, which is not the case in conjunctivitis.

In iritis the pain is severe, and extends from the eye to the brow and side of the head. In conjunctivitis the pain is slight.

In iritis there is severe photophobia or repugnance to light, and the discharge is simply tears. In conjunctivitis photophobia is slight, and the discharge is mucous or muco-purulent.

There are several varieties of iritis, but there is one es-

sential feature in the treatment of all, viz., to secure and maintain, as early as possible, a wide dilation of the pupil.

Sometimes this is easily secured, but frequently firm adhesions have formed between the iris and lenticular capsule, and perfect dilatation is difficult or impossible. It is usually advisable to commence with a five-grain solution of atropia, dropping it in the eye every hour until free dilatation is produced. Should the iris be sluggish or adherent to the lens, as evidenced by irregular dilatation, the strength of the solution should be gradually increased 'till we are using, if necessary, ten grains to the ounce. In case we do not derive good results from the hourly instillation of atropia, it should be used in quick succession.

Direct the patient to devote a half hour four times a day to the use of the remedy, and, during the interval, to apply it it every five minutes.

This procedure will sometimes meet with success where we have heretofore experienced nothing but failure. Sometimes a solution of muriate of cocaine will more speedily than atropia secure free dilatation of the pupil and relief from pain. Usually a 4 per cent. solution is satisfactory. Dilatation will be hastened, except in traumatic cases, by the application of warm fomentations to the outside of the lids. The abstraction of blood from the temple, and the unction of mercurial ointment will sometimes be of assistance. In severe cases, where the pupil utterly refuses to dilate and excruciating pain ensues, paracentesis or iridectomy are justifiable. In using strong solutions of atropia, we should always press a finger against the internal canthus, which prevents the solution from passing into the puncta, and from thence into the nose. This reduces the chances of atropia poisoning to a minimum. Quietude in a darkened room should be enjoined, the diet and bowels regulated and the

pain controlled by anodynes. Acute traumatic iritis is materially benefited by cold, while warm applications are indicated in the other varieties.

In rheumatic and syphilitic iritis, remedies adapted to these particular constitutional conditions should be administered.

Acute glaucoma is a disease usually first seen by the general practitioner. It is one of the most dangerous and important affections to which the eye is liable, yet, when recognized and properly treated in its initiatory stages, is susceptible of yielding good results, while, if allowed to run its course unchecked, will surely result in incurable blindness. It is frequently overlooked, which is most unfortunate, considering the grave results pending in case of incorrect diagnosis. The first symptoms usually make their appearance suddenly. A severe and possibly almost unbearable pain seizes the patient. It is situated in the eye and all about the front portion of the head and the affected side. These symptoms may easily be mistaken for neuralgia or rheumatism, and when accompanied by febrile phenomena, with nausea and vomiting, the patient may be supposed to be suffering from an attack of bilious fever.

But there are other symptoms, which, if noticed, will safely guide us to a correct diagnosis, i. e., redness of the eye-ball, without mucous or purulent discharge; hardness of the eye-ball, as compared with the resistance usually offered when the ball is pressed by the finger; comparatively sudden loss of vision within a few hours or days, and dilatation of the pupil. These symptoms should lead the attendant to promptly diagnose glaucoma, and instantly to instigate proceedings for its cure by an iridectomy.

The timely and proper adjustment of glasses forms a very important part of an oculist's work, and as such cases are usually first seen by the family physician, it is important you early recognize and correct these refractive

errors. Undoubtedly these errors are frequently inherited. In what other way can we explain excessive myopia, hypermetropia and astigmatism in very young children before the eyes have been submitted to any strain, or of the long succession of a certain refractive error in a single family? Can any doubt be entertained as to the advisability of placing glasses on very young children when we consider the unfortunate position of a child born with excessive myopia, the entire range of vision extending but a few feet? This child must derive his ideas of the world and its contents from other senses than sight, and his ideas of surrounding objects must, of necessity, be much distorted. Childish play, and the consequent muscular development, cannot be enjoyed, and an enfeebled constitution is the inevitable result. Not participating in the ordinary pursuits of a healthy child, the habit of solitary enjoyment with books and thoughts, brings him an old age almost before youth is commenced. And we are all aware that the man who acquires a knowledge of life and its practical relations from books, will reach mature manhood with exceedingly impractical and biased ideas. I do therefore emphasize the importance of observing the actions and characteristics of young patients committed to your care, and if such as to excite comment, ascertain the condition of their vision. In young children it is difficult to examine the eyes by test-types, but we possess in the ophthalmoscope an instrument capable of discerning any well marked error of refraction. I would also remind you that when strabismus first makes its appearance it can frequently be corrected by glasses, thus often rendering an operation unnecessary. I wish to insist upon the use of glasses as soon as presbyopia or the natural recession of the near point of distinct vision accompanying old age makes its appearance. Many view with distrust the donning of glasses, believing it should be postponed as long as possible. Nothing could be more erroneous, and the

longer it is deferred after the need exists the greater is the injury to the eyes.

I have endeavored to present these different subjects in the briefest and simplest manner possible. Much remains to be said. My paper is but a synopsis. If I have jogged your memory a little and attracted your attention to a few important points my purpose is accomplished. I am aware that the remarks with reference to treatment are crude and unfinished, but I have only endeavored to remind you of the salient and conservative points useful to a general practitioner, with no especial reference to new and partially untried remedies.

In closing I must briefly refer to cocaine, the most useful and wonderful therapeutic discovery of the past year, or, indeed, of many years. As so much has been written on the subject it is totally unnecessary to give any detailed account of cocaine, its botanical and chemical features, therapeutic uses, etc., etc. It has been experimented with upon every portion of the body, and were we to judge from the reports in different journals, we would imagine that in this strange drug had at last been found the panacea for all human ills. I would not be understood as speaking in disparaging terms of this agent, as I certainly endorse its use for certain purposes, though I do not give it the wide range of applicability accorded by some. From an extensive use of cocaine during the past six months, I can unhesitatingly assert that as a local anæsthetic for mucous and denuded surfaces it is a decided success. I have most extensively used a four per cent. solution of the muriate, but have lately employed a five per cent. of the oleate. This preparation acts more energetically than the muriate, probably because being of an oily consistency it does not weaken its strength by forming a solution with the tears or other fluid constituents.

REPORT OF CASE OF ACUTE SUPPURATIVE INFLAMMATION OF MIDDLE EAR, FOLLOWED BY MASTOID ABSCESS—OPERATION—RECOVERY.

BY J. HENRY JAMES, M.D.

On the 21st of April, 1884, I was called to see one J. B., at the request of his family physician, who, being sick, was unable to attend him. On my arrival I found a middle-aged man in bed, presenting the following symptoms: Countenance indicative of great anxiety and suffering; complaints of severe pain extending over the right side of the head and ear, which was swollen and tender, and emitted a profuse purulent discharge. Patient also complained of dizzy sensations on moving and frequent vomiting without effort, cold sweats on the least exertion, followed by rigor and some fever; no appetite; loss of sleep; chilly creeping sensations commencing in the legs and gradually working up to the body; also night sweats. His pulse was slightly accelerated, temperature 100, tongue beefy and deeply fissured; he was very restless and full of forebodings, indicated by a mania for changing medicines and physicians, of whom he had already had three. The following history was elicited at this visit:

Previous to the last of February, 1884, Mr. B. had hardly known an unwell day. About this time he had a polypoid growth removed from each nostril, and immediately after the operation rode to his home nine mile in the country, facing a cold west wind, and took a severe cold. On the following day he drove hogs to town, got considerably heated, perspired freely, and again rode home in similar weather, and became once more very much chilled. That night he was seized with acute pain in the head and right ear and had a slight chill, followed by

fever. Although very unwell and suffering great pain in the head and ear, he did not call a physician until March 13th, at which date he was visited by Dr. M., who found him still suffering from pain in the head and a discharge from the right ear, and complaining of weakness, loss of sleep and appetite, night sweats and chills.

He prescribed anodynes and tonics and made three visits during the following two weeks, when the patient, becoming discouraged, sent for his family physician, Dr. D., who was now able to attend him. Up to this time there had been no tenderness or swelling over the mastoid, but soon after both swelling and tenderness appeared, for which a blister was applied by Dr. W., whom the patient, in his restless anxiety, had also called in during the interval of Dr. D.'s visits.

When I first saw the patient, April 21st, the blister had relieved this symptom and was healed. I cleansed the ear and found the auditory canal very much swollen and the drum perforated at its posterior inferior quadrant. I ordered daily cleansing of the ear with carbolized warm water and poultice, to facilitate discharge, anodyne to produce sleep, and continuation of tonic treatment of Dr. D.'s, and left instructions as to his diet. The dizziness and vomiting troubled me, but as I could discover no expression of pain or tenderness over the mastoid, either by palpation or percussion, I saw no other course but to await developments, and left, ordering patient to be kept perfectly quiet.

Eight days later, on May 1st, I was again called, and on my arrival found patient had been visited in the interval by both Drs. D. and W., irrespective of each other and at different times. He was very restless, wakeful at night, countenance still expressive of great anxiety, tongue beefy, and he complained of sensations at times as though his heart had stopped, and also of the feeling that his end was near. The dizziness and vomiting, cold sweats, chills

and fever continued; his pulse was irregular but did not intermit. There was marked swelling and redness over the mastoid, which was very painful, with evidence of pus present. I found no appreciable difference in the appearance of the ear from my former visit. It was still swollen and discharging freely.

Patient refused to allow me to open the swelling over the mastoid without the presence of his family physician, Dr. D., and requested me to bring him the following day, which I did. I then made a free opening down to the mastoid, reaching bone at the depth of one inch, and evacuated one-half ounce of pus. I found the bone denuded of periostium and roughened. Searching carefully with a fine lachrymal probe, I succeeded in finding a very small sinus leading into the mastoid, into which the probe passed to the depth of one and one-half inches without obstruction. Leaving the probe in situ as a guide, I passed a small drill down beside it, withdrew the probe and enlarged the sinus, when more pus escaped. The patient bore the operation without ether, which I since regretted not using, for its moral effect on the patient and exceedingly gratifying one of thus securing a much larger fee, since the importance and danger of the operation seemed to him very trivial compared to what it would have done had I used an anæsthetic. The wound was kept open with absorbent cotton, and cleansed thrice daily with acid carbolic sol.

On May 4th I again saw patient at his own and his physician's request. I found him calm and able to sleep at night, appetite returning, dizziness and vomiting gone, all discharge from the auditory canal had disappeared; but there was a free discharge of thick, unoffensive pus from the opening in the mastoid. I ordered continuation of tonic treatment, and the wound to be kept open and clean.

May 13th, nine days later, patient again sent for me in great haste, alarmed by a return of dizzy symptoms and a

sudden cessation of all discharge. Before my arrival, however, the discharge had again reappeared, and patient was relieved. I found on examination that granulations were springing up within the opening in the drum membrane, and also in the wound over the mastoid. The sinus freely admitted the probe to the depth of one and one-half inches, outer surface of bone still rough. I advised patient to come to town and remain where I could see him daily. His hearing power was P 48.

From this time until close of treatment I saw him almost daily at my office or his lodgings in town. The granulations in middle ear and in the wound over the mastoid were treated with iodoform and burned alum; those behind the ear rapidly disappeared, while those in the middle ear resisted this treatment and were eventually subdued by the instillations of absolute alcohol. I injected into the mastoid acid carbolic sol., which seemed to materially lessen the discharge. Patient now began to complain of buzzing sounds in his right ear, which at times annoyed him greatly; he was still weak, anxious and nervous; the slightest exertion was followed by perspiration; his night-sweats continued; also the creeping sensations on the surface of his legs at times.

By June 27th the opening behind the ear had closed and all discharge had ceased; there was still buzzing in the ear at times. Politzer doubtful.

By July 8th the opening in the drum had healed and the granulations had entirely disappeared; patient was still nervous but gaining in flesh, strength and appetite.

From this time until October I saw him at rare intervals. At that date his hearing had returned and all head symptoms had disappeared except that occasional buzzing sounds were heard. He, however, still complained of variable appetite and occasional chilly sensations. He was about, superintending his farming operations and the running of a threshing machine.

REPORT OF CASES.

BY J. W. CHAMBERLAIN, M.D.

CASE I.

Miss E. K., aged 11 years, had always suffered from being unable to see distinctly. She was scarcely able to recognize the features of her acquaintances until she approached them, and to be able to read ordinary newspaper print was obliged to hold it within three inches of her eyes. She exhibited a high degree of strabismus convergens, and had the anxious, uncertain way which frequently characterizes those whose vision is very indistinct. Her distant vision as shown by Snellen's test-types=O. Upon being requested to approach the test-types, it was ascertained that the large letter, which can be easily read by the emmetropic eye at the distance of two hundred feet, was distinguishable at the distance of twelve feet, but not distinctly seen at a greater distance than two feet, and even there the nystagmus and spasmodic action of the accommodation rendered it somewhat uncertain. The nystagmus was rotatory and constant. It was, however, diminished somewhat when she made a very determined effort to fix her eyes on some small object which was situated within the point of near vision.

The increased tension of the recti interni muscles, consequent upon high degrees of convergence, as illustrated by this case, is a powerful factor in overcoming this involuntary tremulousness of the eyes. Nystagmus is usually accompanied by, or rather an accompaniment of, high degrees of hypermetropia, and consequent great breadth of accommodation. This allows the individual to hold objects very near the eye and to read under a very high degree of convergence, which enables the rectus internus

muscle to steady the eye and partially overcome its oscillatory movements.

I could not, in this case, produce any considerable diminution of the nystagmus, by directing the patient to turn her eyes strongly outward, to either side, nor by directing her to look downward. The strabismus was very marked at all times, but much more strongly when she endeavored to concentrate her vision upon any object, either in the distance or within a few inches of the eye. Her eyes were fairly well developed, and did not show in an extreme degree the flatness and general appearance of lack of development that usually characterizes eyes which are strongly hypermetropic. Her parents and friends had always supposed her to be very myopic, and the family physician had promised them "to fit her eyes" in ten minutes if they would bring her to the village druggist who kept spectacles. After ascertaining that she had, practically, no distant vision, I proceeded to examine the refraction of her eyes by retinoscopy. The results obtained from the examination were very unsatisfactory. Her pupils contracted strongly to light, which made the retinoscopy more difficult, the spasm of accommodation was so great that complete relaxation would not take place, and I would get alternately hypermetropic and myopic shadows.

I next employed the trial lenses, but after a careful trial could find no glass, concave or convex, that would in the least improve her distant vision. Similar results followed a trial of cylindrical lenses.

I then examined her eyes with the ophthalmoscope, and for the first time the error of refraction became apparent, a succession of convex lenses were placed behind the mirror of my ophthalmoscope until the vessels of the fundus became visible, and the glass giving me the best view of the fundus was found to be a × 10 D.

This error was very nearly the same in both eyes, yet

the vessels in one meridian of the eyes required a still stronger lens, thus showing that some astigmatism, at least, existed. The optic disc appeared to be small, as did also the vessels, there was considerable hyperæmia of the disc and retina.

I told the patient I could not prescribe glasses such as she should have at that time; ordered a solution of atropia sulph. to be dropped in her eyes, and directed them to bring her back on the following day. Accordingly she appeared the next day with accommodation completely relaxed. I now employed retinoscopy, and the results I wished for were easily obtained. Only a few minutes were required to properly adjust the requisite lenses to each eye.

She suffered from compound hypermetropic astigmatism, which was not exactly symmetrical; one eye differing in degree from the other. The hypermetropia, in one principal meridian of the right eye, being represented by a × 10 D lens, and in the other principal meridian by a × 14 D lens. The refraction of the left eye differed only slightly from the above.

I directed the parents to keep up the use of the atropia daily, and ordered the glasses, which I directed to be worn constantly. As I desired to note the effect that the correction of the error of refraction would have on the strabismus, I advised the parents to let me see her at the end of three months after the glasses were received. I saw her about four weeks since, and the convergence was entirely corrected. Her vision, which was 6-18 or 20-40 when she commenced to wear the glasses, had steadily improved, until she now is able to read part of 6-12 or 20-30, and ordinary newspaper print at a distance of eight to ten inches from her eyes.

CASE II.

Mrs. E., aged 40 years, married, mother of three children, the youngest of which is twelve years of age. For the past few years had suffered with pains in the head, and for the past three months the pain had been much worse, had extended to her eyes and the supraorbital region. She said she would wake in the night and her head would feel as if it were in a vice, which was compressing it on all sides. The pain which annoyed her most was through the temples and in the supraorbital region. She had at times suffered with photophobia, but it was not constant.

Her distant vision was: R 6-12 or 20-30, L 6-18 or 20-40.

Ophthalmoscopic examination showed some hyperæmia of the retina, but no real nerve congestion. Vessels normal size. She was slightly myopic, but desiring to give her relief from her pain first, I applied blisters to her temples and prescribed an alterative—potassium iodide.

Three days later she returned, having been partially relieved. The feeling of pressure about her head had yielded in about twenty-four hours, and she had felt very little of it during the last forty-eight hours. The pains in and about her eyes, however, were very little if any better; the photophobia was relieved. Reapplied blisters to temples and continued the alterative.

Three days later she reported the pain about all gone, but a new trouble had arisen in the interval, which annoyed and frightened her. During the night, when her headache was relieved, she suffered from a feeling of numbness in her lower limbs; as she expressed it, they would "go to sleep" when the pain left her head. This disagreeable symptom only troubled her during the night. Being questioned about her general health, she stated that her last confinement, twelve years since, was while

she was living in the country; that she had never been in the best of health since, yet had never placed herself under a doctor's care. She was advised to go to her family physician and have him make a careful examination, to ascertain whether there was any uterine displacement that might be keeping up her other troubles.

She accordingly consulted her physician, and was found to be suffering from a very extensive rupture of the perinæum, and also a considerable laceration of the cervix uteri. He advised an operation for the closing of the laceration, to which, after some delay, she consented. The operations proved completely successful as to their immediate results; the remote effects were, of course, experienced at a later date.

Relief brought to the visual organs by an operation of this nature cannot, as a rule, be immediate. They were, perhaps, the last organs to suffer, and it would be but natural that they should be among the last to experience beneficial effects from the operation. When nature has been driven from the paths of health she must retrace her steps, and organs remote from the seat of the lesion, which are usually the last to suffer, will accordingly be the last to recover. In this case this principle was verified.

The patient gradually improved, and at the expiration of a few weeks there was very little left for the oculist to do. The error of refraction, which had undoubtedly existed long before the uterine trouble, unquestionably acted as a predisposing cause, thereby placing the eyes in more direct sympathy. The error was corrected by simple cylindrical lenses of — 1 D, axes placed 5° up and in from the vertical.

CASES III. AND IV.

These cases, both hypermetropia, I report simply to illustrate the benefits that result to cases of this class after being carefully fitted with proper glasses.

Miss S., aged 22, complained of a great deal of pain in her eyes, and this was usually followed by an intense headache, which compelled her to go to bed and spend some hours in a dark room. The pain in her eyes yielded after some hours, and the headache gradually became better. During her college life, of four years, she was a very hard student, and was compelled to devote about two days of each week to her headaches. Since graduating at college, she had learned to paint, and after a few hours of work at her easel she would be compelled to quit her work and endure what she called a "blinding headache," lasting for many hours.

She consulted me, about six months since, giving the above history. I examined the refraction of her eyes and ascertained that there was an error of 1-5 D., she had that amount of hypermetropia. The eyes were not exactly alike as to their refraction, one being .5 D more hypermetropic than the othe other. I had the glasses carefully adjusted to her vision and directed her to wear them constantly, but to this she objected. I then adjusted another pair, slightly stronger than the first, for her to use on all occasions where her eyes were subjected to the strain of near work, such as reading, writing, painting, etc., etc. These she used as I advised, and the headaches and pain in her eyes became less frequent, until after two or three months she was entirely free from them, and has, I believe, suffered no return of either.

Miss L., aged 24, after pursuing a high-school course and graduating, followed the occupation of teacher in a graded school for about three years. She suffered, more

or less, during her school years, with pains in and around her eyes, but persevered with her work, thinking all the time that her trouble was a weakness of her eyes, and that it would "wear away." Her sufferings at last became so intense, and prolonged, after any protracted effort to use her eyes, that she was free from the pain but a short time during each week, and that time was usually after her rest of Saturday and Sunday. She finally was forced to give up her teaching, and for the last three years has done no work that would involve any prolonged use of her eyes, thinking there was no help for them.

She finally consulted a traveling optician, who sold spectacles, and, as is usually the case, bought a pair that did not fit her. He gave her a very weak convex glass to use only when she was reading, writing, etc. These she gave a thorough trial, but they did not give her the relief she sought.

Through a mutual friend she was induced to consult me, and after examining her eyes I discovered she had about 1-5 D. of hypermetropia. I prescribed the requisite glasses for her and advised her to wear them constantly. This she readily consented to do, and when I last saw her, which was three or four weeks since, she was using her eyes a portion of each day and experiencing no discomfort from it.

These last two cases serve to illustrate both the value and importance of a timely recognition and correction of hypermetropia. Much valuable time has been wasted, and many days and weeks of pain have been suffered, that may safely be charged up to hypermetropia. Many headaches that prove incurable, and resist all medical treatment, are relieved, either at once or gradually, by the proper adjustment and use of glasses.

FOREIGN BODIES IN THE EYE.—CASES.

BY CARL SCHULIN, M.D.

I herewith enclose reports in brief of two cases of long retained foreign bodies in the eye.

My first case is that of a young farmer from Meeker County. His left eye was hit about the middle of May of last year by a small piece of steel. There arose hardly any inflammation, but the sight was gone from the moment of the injury. He consulted no physician, went through no regular treatment, and came to me about the middle of July, when he was in the city, by the advice of Dr. Ohage, whom he had consulted for some other trouble. The eye looked quite natural, but in the middle, between the inner border of the cornea and the caruncula, I saw a fine, white scar, about one-fifth of an inch long. At the examination with the ophthalmoscope I found the lens and the corpus vitreum perfectly clear, the background of the eye pretty pale, the disc atrophied, and just in the middle of the disc I saw a shining piece of steel standing out.

I, as well as Dr. Fulton, whom I invited to look at this case, advised him to have the eye removed immediately; but he would not consent, and has had until now, as a friend of his told me a few days ago, not the least bit of trouble from this sword of Damocles.

My second case is that of a Bohemian shoemaker of this city, fifty years of age. Eight years ago his right eye was hit by quite a small piece of steel. There ensued no cataract, but a protracted and painful iritis, as he calls it himself, which, under the care of the late Dr. Atwood, healed up without leaving behind any synechies. He only kept a low sight and an inclination to relapses of

iritis. One of these relapses induced his house-physician, Dr. G. Stamm, to call me in consultation.

I found at the inner border of the cornea a local injection, looking about like the one issuing from a phlyctenular keratitis. In the cornea I found near the inner border quite a little scar, and just behind this, in the iris, a greyish prominent speck as large as the head of a middle-sized pin. With focal illumination I discovered in the middle of this speck a fine black point standing out not quite one millimeter. I at once told the man he had a piece of steel in his eye which had to be taken out, but he would not believe this because Dr. Atwood never had been able to discover any foreign body in his eye. Probably at that time it was fully imbedded in the swollen iris. But after having my diagnosis confirmed by several oculists of this city, and also by Dr. Hotz, of Chicago, who called on me about this time, he submitted finally to the operation, which I performed on the 13th of August of last year.

I made a perpendicular corneal section just large enough to introduce one pole of a Hirschberg's electro-magnet. This attracted the little piece of iron, together with a small segment of the iris, to which it was firmly adherent, but when I took out the magnet it slipped back again with the iris. I then introduced an iris-forceps, caught the little foreign body, extracted it and cut it out, together with a small piece of iris, leaving the sphincter iridis intact and producing a double pupil instead of a large coloboma. The wound healed within a few days and he has never had since a relapse of iritis or any sympathetic trouble.

PRIMARY TUBERCULAR INFLAMMATION OF THE MIDDLE EAR.

BY C. WILLIAMS, M.D.

In many if not in all treatises on diseases of the ear, the relation between tubercular infiltration of the various viscera and inflammation of the middle ear is spoken of, but the subject is dismissed with a paragraph. In the work of Adam Politzer, which may serve as an example, since it is recognized as one of the first of the best, attention is called to the recurrence of tympanitis concurrently with tuberculosis, and to the fact that tubercular affections may arise from long-continued suppuration in the middle ear, as, indeed, from suppuration at any part of the body carried over a long period.

It is very generally held that tubercular infiltrations of any part of the body are not found except the disease also exist in the lungs. In the case of the larynx this has been disputed, and it has been claimed that tubercular lesions may be primary in the larynx, and are to be found there without the lungs ever becoming involved. If primary invasion occur in the larynx then it may also occur in the middle ear.

Even though the deposition of tubercular material may take place in the middle ear first, I doubt not that systemic infection would be a question simply of time. Given a tubercular dyscrasia it would not be strange if sometimes the point of primary invasion should be the middle ear; it is lined with a membrane which is practically continuous with that of the lungs, and is peculiarly prone to slight inflammatory lesions, which may determine the deposition of a tubercular infiltration.

Whether it be admitted or not that tubercular infiltra-

tion may be primary in the middle ear, there is one thing in such cases that cannot be denied—that is, the extreme importance of the affection.

There is some difficulty in determining the character of a pulmonary lesion at a time when a positive diagnosis may be most important. An examination of the ear at such a time, will sometimes, not always of course, supply the needed information.

The history of tubercular middle ear inflammation, when written from its beginning, is most instructive. Whether it be primary or secondary, in the initial stages, the phenomena of inflammation proper are marked by their absence. The thing of which the patient first complains will be either hardness of hearing, subjective noises, or both combined, depending upon what part of the tympanic cavity the lesion begins.

In this stage the unwary observer will confound the affection with an ordinary aural catarrh. If, however, careful inquiries are made, it will be found that the rate of advance of the disease is by far more rapid than is ever the case in chronic aural catarrh. At a little later date marked thickening of the drum membrane occurs, with irregularity of its surface, and in some cases, under favorable conditions, distinct elevations may be made out. In time the tubercular deposit undergoes retrograde metamorphosis, the membrana tympani gives way, either at or opposite some focus of infiltration, and a discharge from the ear ensues. Up to this time there probably has not been any considerable degree of pain. Once the perforation is established the destructive process goes on apace, and in a few months the entire membrane will be destroyed; or, as sometimes happens, a portion is destroyed and the remainder inordinately thickened, infiltrated, hard and brawny. The diseased parts now become exquisitively sensitive, the posterior wall and all visible parts of

tympanum are covered with a grayish slough which cannot be removed by any means which it would be right to employ.

In tubercular otitis the bone is almost always affected, the small bones early necrose and come away in the more rapid destruction of the drum membrane, and death is apt to ensue as the result of the extension of caries of the bone leading to cerebral abscess, thrombosis of some of the cerebral sinuses, meningitis, or, more rarely, hemorrhage from the carotid. Death may thus occur before the pulmonary lesions could bring it about.

The case which I show you is an exquisite one of tubercular inflammation of the middle ear. In this case I believe the deposit to have occurred primarily in the middle ear, and I diagnosticated tubercular otitis before I knew that there was any pulmonary affection, and, indeed, before it was detected by the physician who brought the patient to me. Dr. Renz had made a physical examination of chest a short time before, but at the time there were no appreciable changes which would warrant a diagnosis of phthisis.

Those of you who examine the ear will find along the posterior wall of the external auditory canal a number of nodules with a whitish slough. These are probably tubercular infiltrations, and may be due to innoculation by the discharge from the middle ear.

NERVOUS DISEASES.

C. E. RIGGS, M.D., CHAIRMAN.

BRAIN EXHAUSTION.

BY C. E. RIGGS, M.D.

Modern civilization, with its overwork and anxious care, plus climate, is the cause of American nerve sensitiveness; and the latter is the fruitful soil from which spring that class of neuroses known as functional nervous troubles. Of these functional troubles, none have increased with more alarming rapidity than brain exhaustion.

The late Dr. Beard was the first author to differentiate between the various forms of neurasthenia, and the points of difference he then marked out have been confirmed and adopted by more recent investigators. Dr. Theophilus Thompson, in an article entitled "Mental Labor—its Effects on the Blood," is the first writer to describe the case of cerebral exhaustion. When one remembers that this contribution of Dr. Thompson's to the Journal of Psychological Medicine was made about thirty years ago, he can not but be surprised at the clear, comprehensive manner in which the subject was there treated. The conception of the philosophy of brain exhaustion was as clear and lucid as that of the most advanced investigators of to-day in functional phenomena. In the article referred to, the doctor says that intellectual, like muscular action, proba-

bly involves an expenditure of living material, and introduces a changing series of particles; those which have been used giving place to others which come with the energy of new life to perpetuate the action. There may be waste from persistency, undue haste or intensity, especially in creative effort. It is only when the function is performed in a calm and equable manner that the equilibrium of expenditure and supply is maintained, and that power is preserved and increased. Dr. J. M. DaCosta, in his celebrated "Medical Diagnosis," fifth edition, speaks of an affection of the brain which may be confounded with softening, an exhaustion of brain power encountered among professional men, or those engaged in laborious literary undertakings.

Under the head of nervous asthenia, Dr. Austin Flint, in his "Practice of Medicine," describes some of the symptoms of cerebral exhaustion. Forbes Winslow in his work, "Obscure Diseases of the Brain," refers to some cases that are excellent examples of the same disease. Anstie, in his work on neuralgia, refers to the evils of excessive brain work, and deplores the detrimental influence on the nervous system of the emotions not under the control of th will. "Wear and Tear" by Weir Mitchell, graphically describes the effect of over-work and worry on the mind. "Cerebral Hyperæmia," by Dr. Hammond, is an exceedingly interesting little book, intended more for the laity than for the profession. It is written in the author's usual happy style, and is replete with cases illustrative of this disease. His pathology, however, is faulty. The vascular phenomena are secondary, not of primary importance. Dr. Thomas Dowse, of England, last year wrote a very instructive work on the brain and the nerves, upon which the same criticism may be passed that Beard made on Prof. Erbs' article in Ziemssen's Encyclopedia, viz.: That he did not differentiate sufficiently between exhaustion of the brain and the cord, but grouped their com-

bined phenomena under one heading, Neurasthenia. The phenomena that characterize exhaustion of the brain and of the cord, are so radically different, both as to symptoms and therapy, that a grouping of the two together, in the present advanced stage of neurological research, is entirely unjustifiable as to nosology, but positively injurious as to therapy. The most complete and satisfactory work on this subject that has come under my notice, was written by Dr. J. Leonard Corning, last year. I had formed, myself, the same views, essentially, as to pathology and treatment of brain exhaustion, as those advanced by Dr. Corning. My experience thus far most fully confirms his researches.

I have only cursorily referred to Beard, for it is universally known that the present and past activity in the investigations of functional nervous troubles have been almost entirely due to his untiring labor. He, above all others, has led us, step by step, "from the unexplored regions of the unknown to those mysterious realms of which even now we know comparatively nothing, where the living forces of all our mental activities are silently elaborated, and where the solution of those eternal problems regarding the relations of the physical organization of the living being to the acts of its phsycic and intellectual life, evades us, as we pursue it." For the reason that the symptoms of this disease are subjective, not objective, that there is nothing tangible, no perceptive cause to account for the phenomena in question, they appear to many of us as unreal and imaginary, and because the microscope and the scapel cannot solve the mystery, scientific men have allowed themselves to ignore and despise some of the most remarkable, interesting and instructive phenomena of the nervous system, both in health and disease, for the only reason that they cannot be seen, and heard, and felt. Because the phenomena of the great natural forces, such as heat, light, electricity, magnetism

and gravity are beyond the ken of the senses, are they called in question ? In like manner, is it any more justifiable to doubt the phenomena of brain exhaustion because they are subjective and beyond the reach of such scientific tests as the ophthalmoscope, the stethoscope and chemical analysis.

Is it not often the case that a patient is told, who is so unfortunate as to suffer from these subjective symptoms, that there is nothing wrong with him,—only a little nervous irritability,—and that all of his sufferings are due to his own morbid imagination?

Well may the physicians who pass by the obscure phenomena of the nervous system without due consideration recall Dr. Beard's caution, "that modern science in all of its branches, and particularly biology, is constructed out of slight, trifling and unnoticeable facts and phenomena of nature. The brain, every individual cell of it, is a factor as well as a nidus for the conservation of energy. If, as the result of wear and tear, its function is perverted, not only is there cessation of the stirring up of reserve force, but the amount generated is insufficient, both as to quantity and quality, for living and working, as well as for the building up of the nerve cells with nutritive pabulum in form of bioplasm, so that the repair of the waste due to the phenomena of life may occur. If the exhaustion of the brain is excessive the duties of the trophic nervous system are but illy performed; indeed, the very effort of repair many times causes an irritability, unfortunate alike either to rest or nutrition."

Molecular displacement, says Dowse, in the nerve cells, means the exercise of disruptive energy, which leads to a failure in the power of resistance, a diminution of vitality, a lowering of tension, a decrease of tone, an exhaustion of the nervous system; indeed, the latest teaching of science, if we read it aright, is that of defective nutrition. The nerve cells of the brain cause the development of an

unstable and an unequable form of nervous energy, which energy differs from that found in a brain healthily nourished, as to uniformity, quality and quantity; and all of the untold sufferings of patients from cerebral exhaustion are due to this deterioration in nervous force. To those who call in question this view of the pathology of the subject, allow me to say that the most convincing proof of its truthfulness is, that if the treatment be based upon the above hypothesis, the patients fully recover. I can recall case after case where rest, hyper-nutrition and nerve tonics have produced the most happy results, the patients being perfectly restored to health. Was the like ever known to occur if organic changes in the nerve tissues were present? We know that it would not be possible, from the nature of things, even if the organic changes were so minute as to be beyond the observation of the microscope.

Corning says that the circulatory anomalies of cerebral exhaustion, when such exist, are indeed merely secondary manifestations of the primary intra-cellular trouble induced in the first instance by illegitimate demands upon the available functional capacity of the cell itself. The two principal causes of such illegitimate demands are, as we have seen, extreme mental activity and inordinate worry.

Hammond assumes that the circulatory disturbances are the primary causes of the phenomena in question. It would seem that the pre-eminence which he assigns to the vascular conditions is really due to primary exhaustion of the nerve cells, which exhaustion will account for the congestions and anæmias which are so characteristic of this disease.

Of course when this uncertain condition of the circulation is once induced, it reacts in a most prejudicial manner on the exhausted ganglia; and while by a careful therapeutic endeavor, we should control this vascular dis-

turbance, and thus prevent its pernicious influence being exerted upon the exhausted nerve centres, in order to remove the trouble, to cure, not palliate, we must begin with the exhausted cell, and seek by means of rest, hyper-nutrition, and nerve tonics, to restore the cell to its original condition of functional ability. When we have succeeded in accomplishing this, says Corning, it will be found that those abnormal circulatory conditions which were merely the out-growth of defective intra-cellular nutrition, have corrected themselves. Of course, there may exist anæmia or hyperæmia of the brain, independent of cerebral exhaustion, and the disturbed circulation be a primary condition, but the terms, hyperæmia and anæmia, as used in this connection, mean a secondary circulatory phenomenon, which is prominent, as a factor, in cerebral exhaustion.

Climate and modern civilization are the chief factors in the genesis of brain exhaustion. The influence of climate can be better appreciated and understood, when we remember that "it is a fact, both startling and marvelous, that the great nerve centres of man and the higher animals, are formed from the same layer of the young being which gives origin to the skin, or outer layer of the body; in other words, our nerve centres are formed from an infolded portion of what, in the early condition was the outer layer of our frame. This infolded part ultimately obtains through the development of communicating nerves a communication with the outer world, and thus comes, as a nervous system, to regulate and control the entire organization."

Can we wonder, knowing our susceptibility to climatic influence, at our being influenced through nervous agency, by extremes of heat and cold, by the constant barometric changes and the ever-varying electric condition of the atmosphere? In no other country are the climatic conditions so detrimental to nervous

health and tone as in our own, and especially our own State. Extremes of heat and cold produce nerve irritability. I think heat is more depressing to one nervously prostrated than cold, and yet we not unfrequently meet cases where the patient is obliged to stay closely housed during our long winter, because the slightest exposure, even of the most careful nature, causes the most distressing neuralgias and general discomfort. The influence of the climate of our own State, dry and devoid of moisture as it is, upon the nervous system of one already exhausted, as well as its direct tendency to produce, in conjunction with our present civilization, nerve sensitiveness upon those absolutely healthy, is a fact now well understood and appreciated by the profession. The dry, oxygenated atmosphere causes the wheels and metabolic activity to run wildly. The expenditure is far in excess of the repair, and nervous bankruptcy necessarily follows. Climate, of itself, cannot produce nervous asthenia. The Indians, if climate were the chief factor in its causation, would be especially nervous, but we all know that they are just the reverse. Unless they become civilized and partakers of our civilization then, as I have been told by a leading missionary, they suffer even more than the whites. I have seen one case of brain exhaustion of the most aggravated form in an Indian clergyman. The factors in our modern civilization are political, financial, social, intellectual, etc. The poor of to-day may be the rich of to-morrow. The possibilities of the most lowly, if they possess pluck, energy and brains, are as great as those of the most favored. The harvest is golden, and but awaits the reapers. Over work, anxious care and excessive worry are the penalties that are paid as the result of success. The disastrous and baneful influence that these three vicious factors have upon man's mental and physical health, is beyond all computation. It is a generally accepted saying that worry kills.

"A hell-hound that doth hunt us all to death;
That dog that hath his teeth before his eyes
To worry lambs and lap their gentle blood."

The constantly recurring political excitements, with all their feverish anxiety, hate and rancor, these are the causes so productive of wear and tear, so deleterious to nervous integrity, and are the price we have to pay for our republican form of government.

The social life has also its cares, its jealousies, its unsatisfied ambitions. Jealousy is said to be the shadow of love, and, like other shadows, greater than the original. These influences, acting and reacting each upon the other, draw largely on the margin of nerve force, and not infrequently become the channel through which many accomplished ladies are carried from the realm of social life to that of the nervous invalid.

Dr. Hammond cites an instance illustrative of the influence of these emotions when excessive, upon the nervous system: "A young lady was conversing with some of her friends about a ball which she had made great calculations upon attending, but greatly to her chagrin she was not invited. While conversing about it, as stated, she fell to the floor, utterly unconscious. Evidently intense cerebral congestion was caused by inordinate emotion."

Too early an introduction of their daughters into the pleasures and sorrows of social life is a serious mistake made by many American mothers. "In no other country," says Beard, "are the daughters pushed forward so rapidly, so early sent to school, so quickly admitted to society, thus becoming the queens of social life, and assuming the activities and responsibilities connected therewith."

The intensity of our business life is utterly beyond the ability of the brain to endure. As a result of this, we have a chronic predominance of cerebral waste over repair.

The increase of railroads, telegraphic facilities, telephones, etc., everything that adds to the ease and rapidity with which business transactions are facilitated, while they may hasten the acquisition of wealth, yet, if not judiciously used, they speedily weaken, cripple and ultimately destroy the nervous, mental and physical strength, by causing men to exercise continuously the mental faculties to the almost entire neglect of the physical.

The able President of the State University, in his inaugural address, says "that the most hopeful sign for the University to-day is that the standard of scholarship in the High School is steadily rising; that the requirements for admission to the University should be gradually raised so that a higher grade of scholarship may be secured." "The universities of Germany," he continues, "are superior to those of any other country, because their students come to them after more years of patient study and discipline in the gymnasia."

Just as American civilization and climate differ radically from German civilization and climate, so do the capabilities of the American student differ from those of the German student. The destiny of each has been shaped by his environment. The ability of the German student for long-continued, persistent effort, without deleteriously affecting his general nervous strength, is well known. His nervous system has perhaps no superior as to endurance and equipoise. If a German student succumbs to over-work it is his eyes that suffer, not his brain. "The German being less nervous than the American," says Dr. Beard, "excess in the use of any organ is more likely to induce in them local and constitutional disease in accordance with the general law that in strong persons abuse of any function produces local disease, and in the weak constitutional disease." An American will break down all over and become neurasthenic before his eyes give out. The native ability of the American is second to none in the

world. He can perhaps do more work in a less space of time than any of his peers, but he cannot persist in doing it; if he does, his sun sinks before it has reached the zenith, and his future life is one of protracted misery.

> " 'Tis life, whereof our nerves are scant;
> O life, not death, for which we pant;
> More life, and fuller—that we want."

Every nation is a law unto itself. Harmony, with its environment, is of all things essential to national life and usefulness.

The reason that Europe is thronged with broken-down Americans, seeking a restoration of nervous health and strength, is because they have not yet learned that most practical of all lessons, to live in harmony with the nature of things. Those that seek foreign shores to regain lost health, are but a small proportion of those who remain at home. Coming from such a parentage, the students of our schools and colleges must, as the result of heredity, start in the race of life sadly crippled, having a manifest inclination to nerve sensitiveness. This neurotic tendency is increased by the silent yet potent forces that enter into the make-up of modern civilization, aided by the ever-changing climatic influences to which they are constantly exposed. Nothing could be more suicidal than the adoption of the German system under the existing conditions.

The last report of the Commissioners on Education informs us that even the supposed excellence of the German system has fallen from its high pedestal. In certain German States both school boards and physicians have urgently demanded that the mental pressure be lessened; that less time be given to the languages; that the hours of study be reduced; that the students must not be told but a day in advance of examinations, in order to prevent worry. This haste and over-work, the report proceeds to say, did

not exist thirty years ago. If they, with their great nervous strength and favorable climate, suffered sufficiently to cause a protest from school boards and physicians, should not we, with our hereditary tendency to nervous degeneracy, its development being favored by the many unhealthy influences of both life and climate, most earnestly protest against our schools being brought to that degree of efficiency which, in their own country, has caused such general alarm. The danger line has long since been reached.

Our schools have undoubtedly been influenced by the high-pressure spirit of the age, and the problem how to adapt them to the childhood and youth with which they have to deal presents itself with equal force to both teacher and physician. There is no profession that has been more ably filled than that of the teacher. They have long been keenly alive to the danger of the situation, and though themselves among the greatest sufferers, have been powerless to stem the current of the times.

It is the people who must be aroused, and it is our duty to do it. There should be a judicial fairness in our estimate of the various causes that tend to nerve deterioration, and the schools should not be used as the scapegoat for the sins of our over-worked American life.

It is our conviction that our school system, with its evident lack of harmony with its environment, serves only as the last straw to break down a constitution already worn out by other things. Heredity, unhygienic surroundings, roller rinks, etc., have weakened the child's strength and made him abnormally susceptible to all deleterious influences.

Let the standard of scholarship be the highest that is compatible with a perfect physical development; then will we not only have better scholars, but mightier men.

I will now consider some of the clinical phenomena found in brain exhaustion: The patients many times

complain of great restlessness during the day and annoying wakefulness at night. There may be also great drowsiness during the day, especially the earlier part; slight mental exertion often causes severe pain in the head, pain in and over the eyes being especially severe. "Sometimes great mental fatigue is caused by the simple act of writing. The patient attempts, for example, to compose a letter, but soon finds his faculties unfit for the task. There is confusion of ideas, the wrong words are used, letters are omitted or displaced, sentences are altered and realtered. A severe pain is gradually developed at the vertex and over the eyes; objects become indistinct; and finally the task has to be given up altogether. Where the intellectual operation is mathematical in nature, such, for example, as footing up a ledger, the patient experiences the utmost difficulty. A column of figures is half added up when the last number is forgotten, and the operation has to be done over and over again. The repeated effort incident to the undertaking becomes at last intolerable; excessive irritability is developed; sleeplessness at night and drowsiness during the day combine to further demoralize the mental economy, and at last even brief mental effort is found to be unendurable."

Many times one suffering from brain exhaustion cannot read the newspaper, for only a few moments at a time, without causing severe pain in the head, dizziness, and great confusion of mind. If spoken to at this time, his replies are incoherent. These persons are very irritable; their friends find them difficult to get along with. Little things which under normal circumstances would not cause them the slightest annoyance, are magnified a hundred fold, giving rise to frequent outbursts of passion. They seem to notice every trivial thing that occurs around them; their own symptoms are constantly watched and their importance over-rated and magnified, their increase or dis-

appearance causing apparently equal alarm and apprehension.

Memory is usually impaired; the names of familiar places, persons and objects are forgotten; the judgment is vacillating, the patient one moment expressing a fixed determination to do so and so, and the next changing the mind without any apparent reason. "I have known," says Hammond, "a patient suffering from the disease in question, to take several thousand dollars, every day for a month or more, to Wall street, fully resolved, when he left his house, how to invest his money, but always returning with his purpose unfulfilled, a prey to doubts for which he can give no sufficient cause, even to himself."

I have had patients inform me that they had passed and re-passed my office before they could finally determine to enter; when asked as to the cause of the hesitancy, they replied, that they didn't know, but they "just couldn't." In the course of the disease, the patients are almost sure to suffer from an aggravated form of insomnia. They may fall asleep soon after retiring, only to wake after a few hours of unquiet slumber, being unable to sleep any more that night, or, they may not sleep any till toward morning, or not sleep at all during the night, but just at day-break fall into a fitful and restless doze. The expedients to which they resort to procure sleep are legion. They apply themselves to writing or reading, so that they may cause sufficient fatigue to induce it. They drink whisky or beer, take chloral, opium, etc., all with little or no avail.

This irritability of the brain that is alike incompatible with either sleep or repair must be overcome by careful rest and nutrition, not by hypnotics, nor narcotics or sedatives; just at this crisis in the disease, the most baneful results will follow an injudicious resort to these agents and stimulants. The chloral, alcohol and

morphia habit frequently follows a careless exhibition of these drugs. There is an inability on the part of the patients to concentrate their thoughts on what they are doing, there being a constant tendency of the mind to wander. The ocular symptoms are, generally, flashes of light, or dark specks before the eyes; the transition from light to darkness causes very annoying sensations, and gas light seems to be particularly distressing. The pupils may be dilated or contracted; when dilated, the condition of the brain is supposed to be that of anæmia; when contracted, that of hyperæmia. There is generally an abnormal sensitiveness to sound; the creaking of a door, the tearing of a newspaper, the play of children is almost unbearable. Noises in the ears usually accompany the first stage of this trouble.

The cardiac symptoms in many of these cases are very pronounced and are the cause of no little apprehension on the part of the patient. There may be palpitation of the heart, or its action may be feeble and irregular, the patient frequently suffering from vertigo and fainting. Dr. Dowse mentions rapid breathing as having frequently occurred in his cases having this disease, the breathing having been of such a character as to cause the apprehension of serious lung disease. There has come under my care lately a medical gentleman who complains of just the reverse, abnormally slow respiration. He says since he has had cerebral exhaustion his average respiration has not been more than from three to six per minute; after a treatment of statical electricity, it will rise to about eight a minute.

The sense of smell may be perverted or exhausted; there seems to be to these sufferers illuminating gas escaping in the room, or the odor of fresh paint. Taste is similarly affected; they constantly complain of being bilious; mental or emotional strain has been known to

cause an unpleasant taste in the mouth, and I have frequently found that the only remedy for this condition was not anti-bilious drugs, but careful and persistent nutrition. The appetite is fitful, and the stomach acts sluggishly; its peristaltic action being imperfect, the food remains undigested and undergoes fermentation. There may be diarrhœa or constipation.

There is an exaltation of the sensibility of the nerves of the scalp; brushing or combing the hair is many times very painful. A feeling of distension is many times felt in the head, or a dull, heavy sensation, more unbearable to endure, accompanied by heat or pain; these patients have frequently complained of sensation similar to what they suppose they would feel if the head were incased in a closely-fitting iron case. There is usually great pain in the back of the head; a little over-work or worry will cause the most intense pain in the head.

Shakespeare illustrated the morbid states of the body as well as the passions of the mind; in Othello, he described not only the remedy for headache, but the cause.

Desdemona.—Why do you speak so faintly? Are you not well?

Othello.—I have a pain upon my forehead here.

Desdemona.—Faith, that's with watching. 'Twill away again. Let me but bind it hard, within this hour it will be well.

Among the many phenomena of brain exhaustion is that of morbid fears. I have at present an intelligent man under treatment who, while being quite strong, is afraid to go any distance from home. He can of course give no reason for this feeling of apprehension. There are a great many varieties of this morbid fear. The following are the most usually met with: Dread of society, dread of being left alone, dread of open or secluded places,

indefinable feeling of apprehension, dread of forming a decision, fear of disease, fear of everything, fear of contamination, etc. The prognosis of cerebral exhaustion is favorable if taken in time and carefully treated.

The treatment of this disease may be expressed in three words: rest, hyper-nutrition and nerve tonics.

IRRITATION OF THE MALE URETHRA AS A SOURCE OF CERTAIN NEUROSES.

BY LE GRAND N. DENSLOW, M.D.

Although of late years attention has been occasionally drawn to this subject, its importauce is far from being appreciated either by the general profession or by most specialists. My conviction that in this particular direction there is a rich field for investigation and action for the relief of many sufferers, is my only apology for asking your attention to an account of a few cases I have had an opportunity of observing.

Civiale* was the first surgeon who divided the meatus urinarius as preparatory to the operation for stone; and in some of the cases he noticed that some symptoms attributed to the stone disappeared when the contraction of the meatus was relieved, even before the operation for stone was performed. In consequence of this experience he formulated the saying that division of the meatus often caused a sudden and remarkable change in the nervous condition of the individual, and the general condition of the patient often improved without other treatment.

Otis, in a paper read before the New York Derm. So-

*Otis, Jour. Cu. and Ven. Dis., Vol. 2, No. 5, p. 139.

ciety, a little over a year ago, speaks of a case of contracted meatus in a physician, associated with mental depression so great as to render all his mental processes unreliable, and to make him feel as if he did not care to live. These symptoms were entirely relieved by simply stretching the meatus three or four millimetres; the patient would not accept division, and was obliged to dilate at intervals; each time it was followed by prompt relief.

Another physician had been subject to attacks of profound mental depression, coming on without apparent cause; this trouble he bore until he was past forty years of age, when to it were added various reflex nervous difficulties, among these a feeling of weakness in the urethra and a bearing down in the perineum. A sound was passed and gave immediate relief, which continued for several weeks. A year afterward the meatus was divided with the effect of permanently removing his nervous trouble.

The same writer speaks of two cases who were subject to daily epileptic attacks; in both instances there was entire relief after division of the meatus. In one case it was found necessary to cut several times before the tendency to recontraction was entirely overcome, and the symptoms permanently relieved.

The most interesting case described in the paper already spoken of and illustrative of another class of cases in which the reflex irritation falls more particularly upon the spinal cord, occured in a child aged three years. As an infant it was restless and fretful, had frequent erections and enuresis; at 2½ years was still in bad general condition and suffered from biliousness. About this time it was circumcised with relief of enuresis and erections during the day, but they continued at night. About this time although there was no evidence of spinal disease there was marked difficulty in locomo-

tion, the child stumbling in his walk with his right foot turned in, and falling every few steps. The meatus was found to be contracted and was cut. This operation gave great relief, but the meatus having again contracted, it was found necessary to cut again to avoid hypospadias. This operation was very carefully performed and repeated ten times until no further recontraction took place. These numerous operations were found necessary, as the symptoms would return with the slightest recontraction. The child was seen two years after the date of the last operation and found to be fat and well.

Early in January of the present year, a patient presented himself to me, suffering from neuralgia of the testicle; it was noted at the same time that there were numerous large acne papules scattered over the face, especially on the forehead. Upon examination, the meatus was found to measure 26 while the normal size should have been 34, and the prostatic urethra was very sensitive. The meatus was cut and later the deep urethra treated by passing full sized steel sounds. Within a month I noticed that the acne had disappeared and the neuralgia was very decidedly improved. Up to this time the meatus alone was treated. This is the first reported case of acne cured by treatment of the meatus alone. The neuralgia was finally after about three months' treatment cured by the systematic application of the sound, together with galvanism.

This case is especially interesting, showing as it does, that the cure was not effected as a result of the operation on the patient's mind, as no mention was made of the acne either by the patient or myself, until about one month after treatment commenced, when the patient informed me that he had always been troubled with pimples (as he expressed it) until the present time, and asked if I thought the operation could have had anything to do with their disappearance.

This patient has been seen by me within a few days and there has been no return of the acne, but occasional pain in the testicle. Upon further examination of his urethra with the bulbous bougie a stricture of large caliber was found 3½ in. from the meatus; it would allow of the easy passage of a 34 sound, but was easily detected with 32 bulb. I have every reason to believe that the remnants of the neuralgia is due to this contraction, as it is always relieved by the passage of a sound. The patient intends to submit to internal urethrotomy as soon as he can remain in bed for a few days. In connection with this subject of acne, I should mention the fact that Dr. Sherwell of Brooklyn, N.Y., was the first to suggest the treatment of acne by sounds in the deep urethra.

Did time permit, I could give the histories in full of more cases illustrating the influence an abnormal urethra may exert over different portions of the nervous system. I will simply state, that in one case there was general alopecia, the underclothes being lined with hairs at the time of his visit, which was at once arrested by treating an irritable urethra. A second was a case of impotence, entire absence of erections in a married man, 42 years of age. This condition had existed for eight years. Upon examination a number 16 meatus was found; this was cut to full size, and a cure was effected within a week. This occured two years ago, and I have heard recently from the gentleman, that at present there is very little probability that any further treatment will ever be necessary. The last case I will mention was an aggravated case of acne in a boy 14 years of age. The lesions on face and back were cured by deep urethral treatment and have remained so for months; the back of the neck is improving, but more slowly.

In this entire matter I have no theory to offer, but merely state facts. I think the cases show very conclusively the

intimate relations existing between the urethra and distant organs through the cerebro-spinal system. In the cases related we have examples of mental depression, melancholia, epilepsy, loss of co-ordinating power in the muscles of locomotion, acne, neuralgia of the testicle, alopecia and impotence all cured or relieved by urethral treatment. It is to be hoped that these examples are varied, and the result brilliant enough to induce others to investigate still further in this direction. At least in any obscure nervous trouble, let us examine carefully into the condition of the urethra, and occasionally a solution of the problem may be found.

CEREBRAL EXHAUSTION IN YOUTH.

BY W. C. EUSTIS, M. D.

There is said to be nothing new under the sun and therefore, while I may say only what is already generally known to the profession on the subject of cerebral exhaustion, still the subject itself has not been exhausted. For many years I have felt a very deep interest in nervous exhaustion, no matter what form it might assume, and especially in relation to the cerebrum. Even before I began the study of medicine, my attention was strongly attracted to several instances where excessive mental application had resulted in a more or less permanent weakening of the intellectual faculties. "Hard study never hurt any person" is a remark by a leading literary educator at a time when I was a member of his classes. I know from experience as well as from observation that his statement was radically wrong when applied to physical labor, and I

naturally wondered whether intellectual effort was a grand exception to the general rule. I have long since concluded that my learned instructor was most unlearned on this very important question. Again and again I have seen ambitious students stimulated to prolonged and unusual effort until brain and body both called a "halt!" and there was presented the sad spectacle of educated beings shorn of the strength needed to use their intellectual acquisitions, educated invalids, some have called them, and more unhappy creatures it would be hard to find.

Now I do not propose to ventilate my convictions in relation to cerebral exhaustion from excessive attention to business, as the term is commonly used, but to confine myself to the earlier and student years of our life. And just here, allow me to throw a stone at our modern system of education, or, as some more properly term it, our "brain-cramming" system. It cannot be said now as it might have been said fifty years ago, that educators have had few opportunities of learning the processes of mental culture and the wear and tear involved. We now have professional instructors who are making education a life-work. They claim to understand their calling, but unfortunately, furnish a large amount of proof to the contrary. Whoever heard of an average farmer who did not know his colt would be seriously injured for life, if worked too early and too hard? Would that the educators of our children were as wise in their vocation and made a practical application of their wisdom. It has fallen to my lot repeatedly to know those whose brain centres were almost crushed at school (to use a figure), and still no one seemed to think the teacher to blame. I have often seen brains so weakened, so exhausted, by excessive study, as to utterly refuse to do any more, and the child or youth would be wholly incapable for months, and sometimes for years, of anything like prolonged mental effort, except of the

lightest character. I believe that the fault lies mainly with our educators. With occasional exceptions, they are grossly ignorant (or, if not ignorant, then culpable) of the proper ways and means of securing a "sound mind in a sound body," "mens sana in corpore sano," is dwelt upon almost or altogether in a literary sense in the class-room, rather than in its highest and completest sense embracing soundness of mental training or culture united with a complete physical development. It is a shame that the early years of so many of our children and youth should be made more or less wretched and their health temporarily or permanently impaired by the unreasonable exactions of our professional educators. Far better is it to possess only the rudiments of an education, than to be an intellectual Samson with our locks shorn. Society is weary of so many educated invalids with brains exhausted in the effort to develope them excessively or prematurely.

The statistics, if available, would be startling indeed, of the large number who began their school-life with high hopes, with a high purpose, only to find after a few years that they were capable of far less effort than at the first, as well as injured in many other respects. Few are the instances in which the ambitious student was warned of evil, while goading stimulus was the general rule. As the world stands now, we place most of our children and youth in the educational care of professional educators, and we have a natural right to demand that they be returned to us free from both cerebral and physical exhaustion, and any system of intellectual discipline that fails to do this, is radically wrong and ought to be corrected at once. I imagine that I hear some of our teachers objecting to my strictures, claiming perhaps that their own positions depend upon their forcing their schools to a certain amount of work in a limited time. Be this as it may, the youthful charge of any teacher should take precedence of self, every time,

and only so much required at school as may be done with profit to both mind and body. Children and youth should be closely watched that fear of punishment, or excessive ambition, should not stimulate to an unhealty degree. That child or youth would be phenomenal indeed, who might without aid preserve a healthy balance and graduate unscathed. Our scholars require instruction often repeated in mental and physical hygiene, or many of the brightest and best will turn out the poorest, and many others will leave school at the earliest moment, disgusted and discouraged.

I am fully persuaded that a large percentage of the functional troubles that burden later years with so many, are due to an injudicious school training that fails to develop both mind and body in a healthy symmetrical manner. I cherish the hope that a time will soon come when competent physicians will have the oversight, to a proper extent, of our educational machinery, and inaugurate a day of better things, a day in which sound minds in sound bodies shall become the rule and not, as now, the exception.

EPIDEMICS, HYGIENE AND CLIMATOLOGY.

A. T. CONLEY, M. D., CHAIRMAN.

Mr. President, and Members of the State Society:

Acting for your Committee on Epidemics, Hygiene and Climatology, I, on the first day of May last, sent to each of the members of this association a card containing the following list of questions on Diphtheria:

First—Will you give your experience with diphtheria during the past year?

Second—What light have you got on the etiology, prevention and treatment? Give statistics, if you have any.

Third—From your observations, do you believe that there are two varieties of the disease, *epidemic* and *sporadic*, and that the latter is much less contagious and fatal?

Fourth—Are the first symptoms constitutional or local?

Fifth—Is croup and diphtheria one and the same disease?

Sixth—To what extent do you believe in and use disinfectants and quarantine?

I received in answer to this card thirty-one communications, and have gleaned from them some facts that will be of interest to the Society, I trust. The first is that diphtheria is on the decline in our State,—six report not having seen a case during the year; seventeen report having seen but a few cases, and those of a mild form; two report epidemics—one in the western part of the State and one over the line in Wisconsin—while the remaining

four do not state whether they have seen any during the past year or not.

As to light on the etiology, prevention and treatment, only one ventures to assert anything radical. Dr. Hutton, of Fergus Falls, believes he has found a specific in treatment.

As to forms of the disease, fifteen believe in two varieties, but all are not agreed that the sporadic form is less contagious and fatal. Ten believe that there is but one variety, and the remaining six do not venture an opinion.

Only six give statistics as to mortality, and these are not for the past year. One reports a mortality of 6 per cent., one 10 per cent., one 20 per cent., one 25 per cent., one 35 per cent., and one a general average of 15 per per cent., but admits that at times the mortality has reached 50 or 60 per cent.—making a general average in the six reports of 18½ per cent.

Ten believe the first symptoms to be constitutional. Eight believe the first symptoms to be both constitutional and local; two believe the first symptoms are local, while the remaining eleven are uncertain, state no definite opinion.

Is croup and diphtheria one and the same disease? Twenty-one believe that they are not; five believe they are, and five are not prepared to give a positive opinion.

When we reach quarantine we have almost unanimity. All believe in strict quarantine but two. Two out of thirty-one doubt whether diphtheria is a contagious disease at all.

Disinfectants of various kinds are used by nearly all, but not always with confidence that they are of any real worth as a preventive or prophylactic.

As there are about three hundred members in this Society this report represents more than ten per cent. of the whole, and we may consider it in some sense as an expression of the whole. It seems fair to suppose the per-

centage would not vary much. To recapitulate, then: Half of the physicians in the State recognize two forms of diphtheria; one-third recognize but one kind; the others are undecided. About one-third believe that the first symptoms are constitutional; about one-fourth believe constitutional and local symptoms appear simultaneously; while only about one in fifteen believes the first symptoms to be local. More than two-thirds believe croup and diphtheria not to be the same. Scarcely one-sixth believe that they are, while in quarantine there are perhaps not twenty out of the three hundred but what believe in and recommend it.

It seems to me this, in reference to quarantine, is the most satisfactory matter to be derived from this report, and I presume most of the members present will agree with me that this is the chief factor in bringing about the present satisfactory statement of the decline of the disease in our State. Though there may be something in the cyclic theory and the periodic ravages of this and other diseases, there is still this difference: The cycle-theory is theory, but quarantine is a practical fact and has been demonstrated. While I am a firm advocate of quarantine I have little or no confidence in disinfectants as commonly used to destroy the diphtheria poison, as I will illustrate further in my own case at home.

I believe cleanliness is always a sanitary measure in disease, but think we have heard too much about filth in diphtheria. In our epidemic in 1881 I could never see the marked difference supposed by many to exist, that the dirty poor and cachectic suffer more than the clean, wealthy and well cared for. In fact, the only two families where diphtheria existed in our village who lost none of their members were two of the most unwholesome as to home surroundings. Many of the cases that were most rapidly fatal could not have had better sanitary surroundings.

That the disease is first constitutional I have not a doubt. I go much further than that—I believe that the specific poison may be in the system for days and weeks, in quantities not sufficient to produce the disease unless an exciting cause intervenes, and may or may not develop, according to circumstances. The most common exciting cause being cold, damp, chilly winds in the fall and spring. For the past five years I always dread to see a thaw late in the fall or winter. I have learned to know it as diphtheria weather. Why? Because the poison has been in the town all that time, and is yet. It comes *off warm* during cold weather; children are allowed to play out, they take cold and in a day or two have diphtheria.

Let me illustrate: In my own family, during our epidemic, in '81, my children escaped for a long time; I kept them closely quarantined at home; on the 5th of December I took my little girls out for a ride; there was a chilly wind blowing, but otherwise the day was fair; the next morning the oldest one was attacked with malignant diphtheria and died on the sixth day. At the time it did not occur to me that the ride had anything to do with it. I did not take the other girl out for a drive for seventeen days after her sister died, then I took her out for a short ride and the next day she too came down with the disease, and also died on the sixth day.

But I have stronger proof. Two years pass, to the very month. Friends visit us with two small children. They occupy one of the rooms where one of my children was sick and died. They stay with us three days then ride home twenty-eight miles on a cold day in December, and in a day or two both children sicken and die with diphtheria. There could be no other source of contagion traced. They must have been poisoned at my house.

And now I will give my reasons for doubting disinfectants. We burned a number of pounds of sulphur in the rooms where the children had been sick, with doors and

windows closed for many hours. Many things used in the sick room were burned. All bedding and carpets that could not be boiled were put in the sun light, out of doors, for days. All the rooms were repapered and ceilings whitewashed. In fact, I was as thorough as it seemed possible to be, and yet, enough of the virus must have remained to sow the seed, and the long ride home in the cold caused it to sprout and grow. Other visitors had often occupied the same rooms in summer and did not take the disease.

I could multiply cases of this kind in our town, where exposure acted, it seems to me, to fan into flame the smoldering embers of that fell disease which, once in full conflagration, can no more be controlled than could the flames of a burning Chicago. Life often is destroyed in from one to six days. Gentlemen tell us to sustain the vital powers by nourishment and stimulants, but the stomach is so irritable that nothing stays in it as long as we are putting it there. Shall we try enema? Show me the child under five years of age that will retain it a minute. We have never found specifics for other diseases of like fatal tendencies, why expect to in this?

During our epidemic before mentioned a family consisting of the parents and two children contracted the disease. The children both died, and soon after the mother died of some other disorder. Housekeeping was broken up, bedding and clothing packed away. I think, however, that they were all washed or disinfected, and had been occasionally aired. Last fall all these household goods were sold at auction. In about four weeks, during a warm spell after the first snow came, all inside of a week, five families developed diphtheria. I was at first positive I had the cause of the outbreak in the goods bought at this auction. I saw members of the families where diphtheria existed afterwards, but only two would admit that they had attended the sale and bought goods.

These two families had bought bedding. There were about ten cases in all, but it never spread from the first families attacked.

This spring there were two well-marked cases in town and one in the country two miles from town. I could trace the contagion to no satisfactory source. The disease assumes a much milder type than the epidemic of 1881, though out of the thirteen cases just reported three died.

Dr. B. Jaehrig, of Red Wing, reports having had a few mild cases during the past year; could trace them only to local causes. Quarantine and cleanliness are his preventive measures. He believes in two varieties. Sporadic cases rarely fatal; recover under almost any treatment. In epidemics the first symptoms are constitutional. Croup and diphtheria not the same.

Dr. Jaehrig tabulated one hundred cases some time ago, from which we glean the following facts: Mortality, 35 per cent.; causes of death, paralysis of digestive track one month after convalescence, causing death by starvation, one—girl aged fourteen years—sudden death, probably due to embolism, four. Most of these died during convalescence; ages various. The balance were about equally divided between exhaustion from hemorrhage and asphyxia. Mortality by nationality: Scandinavian, 45 per cent.; German, 22 per cent.; American, 10 per cent. Mortality by locality: High Prairie, very few; thinks but two. Most of the cases were in valleys, and the most fatal on the north side of cliffs, where the sun rarely shone during the winter months. Epidemic most fatal during the months of February, March and April.

Dr. H. P. Johnson, Houston, has treated four cases of diphtheria during the past year, one of which proved fatal. He believes that the disease, in his locality, is often caused by filth and poor ventilation. He believes the first symptoms to be usually constitutional; that diphthe-

ria and croup are different and distinct diseases. He is a firm believer in disinfectants and quarantine. He believes in epidemic and sporadic forms, that the former is more contagious but not more fatal. If he sees a case before the membrane has formed he gives large doses of belladonna and aconite to produce dryness of the throat, thereby checking the exudation and aborting the disease. In six years his average fatal cases has been 15 per cent. In some series of cases the mortality rose to 50 and 60 per cent.

Dr. J. J. Stone, of Wabasha, has seen several hundred cases in the last five years. He considers that the disease is propagated by a specific poison, the nature of which he has no conception of. He thinks that cleanliness, ventilation and outdoor exercise are the best prophylaxis. In his practice the fatality has been much greater among girls than boys. His treatment it to destroy the membrane as quickly as possible. Lactic acid does this the best for him. He then dusts the surface with sulphur and uses bromide and iodide of ammonium. He believes in but one variety of diphtheria; that the first symptoms are both local and constitutonal; that croup and diphtheria are not the same; recognizes croupous diphtheria; prefers strict cleanliness to disinfectants; has little faith in quarantine, thinking that it satisfies nervous people but does little good.

D. F. Brooks, of Minneiska, recognizes two forms of diphtheria, of which the sporadic is less contagious and less fatal. He looks upon first symptoms as constitutional and considers croup and diphtheria to be one and the same disease. He believes in rigid quarantine, but has little faith in disinfectants. His treatment is by alcohol and quinine ; he has no faith in chlorate of potash or tincture of iron.

Dr. C. E. Dampier, Crookston, believes that diphthe-

ria is caused by a specific poison, and can only be taken by contagion. He thinks quarantine should be as rigid as in variola; believes in two forms of the disease, both of which are equally contagious and fatal. He thinks that the first symptoms are constitutional and that croup and diphtheria are not the same.

Dr. F. McGuire, of St. Paul, knows but one kind of diphtheria. In his opinion, the first symptoms are constitutional; croup and diphtheria are not the same. He believes in quarantine and disinfectants.

Dr. G. Murphy, Garden City, believes in the diphtheria follicles; recognizes but one variety of the disease which appears in sporadic and epidemic forms, of which the former is less fatal and less contagious. Croup and diphtheria for him are different diseases. His preventive means are cleanliness and quarantine. His treatment is by dilute carbolic acid, internally, alternating with sodic hyposulphite; later, he uses digitalis, quinia, alcohol and tincture of iron. Fatality, in epidemic of 1881, according to his experience, ten per cent.

Dr. A. E. Spalding, Luverne, has just gone through an epidemic of diphtheria in which he treated ten cases with one death, his own child. He had the disease himself. He believes croup and diphtheria to be the same disease; that the first symptoms are constitutional. He believes in and uses disinfectants and quarantine.

Dr. A. C. Wedge, Albert Lea, has seen no diphtheria during the past year. He believes in two varieties, the sporadic being less contagious and fatal. He looks upon the first symptoms as constitutional; thinks that croup and diphtheria are the same disease. He has faith in quarantine, but the effects of disinfectants seem to him very uncertain. He accepts the germ theory but knows of nothing that will kill the germs but fire.

Dr. W. A. Hunt, Northfield, has seen no cases during the past year. He believes in the two forms of diphthe-

ria, but deems both equally contagious and fatal. He thinks that the first symptoms may be either constitutional or local, generally the former. He believes in quarantine and disinfectants. His treatment consists of active stimulation.

DIPHTHERIA, AS I SEE AND TREAT IT.

BY T. J. HUTTON, M. D.

"The glow-worm shows the matin to be near."—SHAK.

Ladies and Gentlemen of the State Society:

The old proverb, "all beginnings are hard," has been especially true of the subject in hand. Its ultimate cause being invisible to the naked eye, and the disease itself occuring but rarely, affording meagre opportunity for study, our knowledge of the nature, and of the successful treatment of diphtheria, grew with a slowness and painfulness that were simply intense. And so it has long been the demon of the hearth, the terror of the people, the stumbling block of the profession, and despite what new light we have, of late years, and which I fear has not been widely disseminated, it is still the most fatal disease in our commonwealth as stated in the card of your committee.

During the past few years I have devoted considerable time to the clinical study of this malady, which has given me, if I mistake not, a theory and practice of my own. All I ask is that you hear me patiently and test for yourselves, before you condemn.

The kingdom of medicine does come by observation. Clinical experience is the test of all truth. Exact science is but uniform results under similar conditions. If I ob-

tain uniform results, under similar conditions, in one-hundred instances at the bedside, this, to my mind, is truth; it is science, as exact as your law of gravitation with its exceptions, and your exact science of chemistry, based on the atomic theory, a pure hypothesis.

To my mind the nature, stages, indications of diphtheria are as clear and distinct as they can be,—in no other disease are they more distinct. Now I do not wish to trifle with a serious subject, but wish to state my views clearly, and declare to you that so perfectly free from all doubts, fears and confusion am I, as to what to do first, next and last when called to treat it, that I hasten to a pest-hole of diphtheria with the same joyous alacrity that I would drop in on a Dutch dance or a huckleberry picnic.

What then is diphtheria? Diphtheria is a specific, septic sore throat. What are its stages? First:—Local pseudo-membrane; Second:—Systemic infection; Third:—Death, with symptoms of blood poisoning.

PROVE THIS!

Five proofs: First:—The most competent observers of the past generation held this view; Second:—The most competent observers of to-day hold this view; Third:—One hundred times I saw the pseudo-membrane in the fauces and no symptoms of blood poisoning present; Fourth:—I treated forty-three patients successfully, some of them in very fatal outbreaks, by local treatment exclusively, fresh air and other means of purifying the apartments excepted; Fifth:—The microsope, in the most competent hands, confirms this view: "Early in diphtheria you find no micro-cocci in the blood."

Is diphtheria something else? Is it mumps? Is it measles? Is it actinomycosis? Is it croup? No my friends, a mascot is a mascot and diphtheria is diphtheria. Forty years ago the McCauley of medicine thus differen-

tiated it from croup: "Some analogy with that disease it certainly has, but the points of difference are stronger and more essential. It resembles croup inasmuch as it leads to the production of an adventitious membrane upon a mucous surface. It differs in the position of that membrane, which is seldom formed in the trachea. The parts first and chiefly concerned are the fauces." A few days ago Virchow said: "In the first volume of the Archiv published in 1847, I pointed out the anatomical distinctions between a croupous and a diphtheritic inflammation of mucous membranes. The former is an exudation upon the surface of the membrane, the latter a necrotic process in which the false membrane is composed of the exfoliated tissue." He charges Rokitansky with having first loosely applied the term "croupous" to all pseudo-membranous affections. These differentiations of Watson and Virchow hold good to-day. Like poor friends and creditors coming in at once, both diseases may attack a patient simultaneously. This doubtless led to the confusion that still lingers in the minds of some.

What causes diphtheria? The answers to this question have been many and vague. Some of these remind us of the origin of the mule as given by a gentleman slightly non compos, "when they was young they was small, and when they was old they was big." To-day, in scientific circles, it is all bacteria, "the lowest organisms situated upon the limit of the two kingdoms, animal and vegetable, at one time considered as animals, at another taken as vegetables, transported from the algae to the fungi; one author has even gone so far as to refuse to them the nature of living beings." There are more varieties of bacteria than dialects in the Russian empire. The particular kind, which according to many learned authors enjoys the monopoly of the diphtheria business, is called micrococcus. Dr. Magnin, in his admirable work on bacteria, says: "The healthy mouth is constantly infested with microcci

and other forms of bacteria." Oertel says: "They were discovered as far back as 1868, by Buhl, Hueter and myself." Ebert declares that "without micrococci there can be no diphtheria." Dr. H. C. Wood, referring to his own investigations upon this subject, sums up in these words: "I think that these researches prove that diphtheria is produced by micrococci that are present in every man's mouth. It fails to produce diphtheria because it is in an inert condition."

There is not however full unanimity of opinion on this micrococci question. "According to Ewart and Simpson the pathogenic organism of diphtheria is a minute spore which develops into long, slender bacilli upon the surface of the tonsils, etc., when for any reason they are denuded of their epithelium," and "Letzerich differs from other German observers in regarding a true fungus as the specific contagion of diphtheria." "According to Nageli all the bacteria are fungi which produce putrefaction." Then, too, the gentle air of romance and speckled moonlight thrown over the whole subject of bacterianism by the confession of Cohn, one of its leading workers, must not be forgotten: "So long as the makers of microscopes do not place at our disposal much higher powers, we will find ourselves, in the domain of the bacteria, in the situation of a traveler who wanders in an unknown country at the hour of twilight, at the moment when the light of day no longer suffices to enable him to clearly distinguish objects, and when he is concious that notwithstanding all his precautions he is liable to lose his way."

I believe with the microscopists that the cause of diph theria exists in every habitation, if not in every mouth,, in an inert or attenuated condition; that it is either a micro-organism of the fungus order, or that it is mephitic, consisting of cast-off, putrid, disorganized particles of the human body; that the condition of crowd-poison is the one thing above all others, that gives this unknown

and otherwise inert factor its most deadly activity. I believe that this poison once developed may retain its virulence for years, (after two years I have witnessed it so act in my own practice,) and that placed in the cleanest and best ventilated house, it may there develop a fatal outbreak. Yet I also believe that the vast majority of fatal outbreaks are developed de novo, and that overcrowding is the one thing that so produces diphtheria. So that I oppose to Ebert's "no micrococci, no diphtheria," the view just stated, viz., "no crowd-poison, no diphtheria;" for if the manufacture ceased, the limited supply in stock would soon die out.

Nor did I construct this theory; it grew upon me day by day through years of close unbiased study of the disease, constantly receiving new confirmations, even still new ones as I write, until now it seems clear as noonday, and to reject it would seem like rejecting an universally accepted axiom. On my way to the last diphtheria call I attended, thirteen miles in the country, the father of the patient, an intelligent German, volunteered a remark that was a skeleton of all that I can state in this whole paper: "When I first came up into this country, fourteen years ago, it was no sickness at all; now it's lots." How many children had he then? One. How many now? Nine. Live in the same one-living-room house? Yes. Thereby hangs much of the explanation.

So seven years ago I came up into this country, then almost brand-new, where no white man had ever lived before. I saw most of the present rural inhabitants build their log houses, build their first turnpikes and railroads, break the virgin soil, and harvest their first crops. There was no diphtheria here then, but I saw them prepare the conditions, which later on gave them their first crop of diphtheria, just as certainly as breaking and sowing the soil gave them their first crop of wheat. All the severe outbreaks were in the country, and were purely sporadic.

In the vast majority of instances it was simply impossible to interpret them otherwise, and I do not believe that in a single instance the poison was imported. One condition was uniformly present—manifest overcrowding. We know that all the zymotic diseases, to which diphtheria belongs, are a buzzard species that revel in some sort of filth. The only filth uniformly present where these outbreaks occurred was filthy air, due to overcrowding. The disease occurred mostly in air-tight log houses, consisting of one living room, in which the entire family passed the long winter evenings of our cold northern climate. The houses were built for the most part on the open, rolling prairie, where the purest of air circulated as freely as any one could wish. Neighbors averaged half a mile to a mile apart, and when my first report was published, no family within twenty miles had ever had diphtheria, and with these the affected houses had no personal acquaintance and communication. Nine cases out of ten occurred in winter, and the deeper the snow, the stormier the weather, the lower the temperature, the larger the family and the smaller the house, the more malignant the outbreak. In nine cases out of ten the attack began in the evening. Still more, they occurred chiefly when winter was somewhat advanced, when fungus or filth had had ample time to develop or accumulate, when earth and water were ice-bound, two to six cubits in depth, and the only possible remaining agencies, palludal and telluric influences, were out of the question, because inoperative. In further support of this theory—if such cumulative facts can be called theory—in my published article, I gave measurements of houses, and the number of inmates, both grossly violating all known requirements of physiology and hygiene, but do not consider it necessary to repeat them here. I will, however, present a few additional illustrations of this theory, of a more general kind, before quitting "causation."

1. Five years ago I visited professionally, in our town, a toy house of three toy rooms, with scarcely any sunlight, and smelling most oppressively of human exhalations. On leaving I said, "You must enlarge this house and clean up, or you will get diphtheria." Since that time this man has lost his two children by diphtheria and then enlarged his house. No diphtheria in our town six months before or after this.

2. A couple lived in our town in a toy cottage of two or three tiny rooms, with an adopted child. This child, being in perfect health, gave a party to a crowd of little friends. A few days ago she died of diphtheria. That house also has since been enlarged, No diphtheria in our town six months before or after this.

3. Mr. Nelson, of Albany, N. Y., tells me of a similar instance. A young girl in perfect health gave a party to her young friends, and died a few days after of diphtheria, contracted, undoubtedly, from the crowd-poison generated in the rooms that night.

4. A large number of young people of the lower order held an all night in a small dining room of a low boarding house in our town. Next day two of the girls developed diphtheria. No diphtheria in town for six months before or after this.

5. At Ashland, Wisconsin, a new railroad was being built last winter (1884-85), causing a local boom, and crowding all manner of houses and shanties with human beings; diphtheria raged. The mortality was about thirty per cent.—so says the contractor.

6. Some years ago, when I lived there, a mining town in Pennsylvania took on a boom. Corner lots went up thirty-five hundred per cent. Many farmers from an adjoining county left their farms and moved in there to get rich. Rents were high, houses scarce, and in some instances many branches of a family, near and far relations, crowded in together. Soon diphtheria raged there. One

such family, consisting of three generations, living in rooms back of a store, with little sunlight and less ventilation, were attacked. The third generation and half of the second were destroyed. The young husband lost his wife and children, a beautiful family, all in one week.

7. The Bermuda Islands have no winter in our sense of the word. The mercury "never, or hardly ever," falls below 40° Fahrenheit. There is no crowded fireside, there is no crowd-poison, there is no diphtheria there. Dr. Tucker, health officer at the port of Hamilton, and who has practiced on the islands nearly fifty years, will so inform you, as he informed me on the spot, last October.

8. Norway, in its central and northern sections, has considerable winter, considerable fireside crowding, considerable crowd-poison and "lots of diphtheria," as I am informed by a native practitioner.

Is it new doctrine to say that house air may be impure? or that, being impure, it may cause disease? Why may it not cause poisonous or pestilential disease? Is it new doctrine to say that the human body secretes and excretes poisons? What is cholemia, and what is uremia, if not toxic disease? If micrococci be the ultimate cause of diphtheria, what rouses it from its inertia? For the microscopists do not tell us. May it not be due to deficient oxygenation of blood that must take place in the crowded condition described? If the ultimate cause be mephitic, due to cast-off particles of body-detritus, returning whence they came, and whither they should not return, wherein does it differ in theory or fact from the poisonous effects produced by the retained secretions of cholemia and uremia? Does not a little leaven leaven the whole lump, and may not one molecule of mephitic matter by contact and catalysis rot first the throat, then the blood? Is not cess-pool fever, so closely resembling typhoid, caused by filth without micro-organisms, and does not so good an authority as Wilson believe that many skin diseases are

caused by broken-down epithelial cells of the skin itself? Our theory of crowd-poison covers both ultimate views, micrococci and mephitism.

This theory of causation, supported by my experience, regards over-crowding by human beings the prime factor in the production of sporadic diphtheria. It may also be that the same conditions develop it in lower animals, to whom, according to the ancient philosophers, and modern scientists, we are more closely related than we care to acknowledge. This, at least, is proven: Children can take diphtheria from lower animals, and lower animals become infected from children.

What is nearest to us affects us most. Like the Peoria specialist who considered urinary examinations essential in the treatment of all diseases, many of our city brethren harp on sewers and sewer gas as the sole cause of diphtheria. Sewers do contain foul organic matter, and they doubtless may originate diphtheria, but this foul matter must not necessarily pass through sewers in order to cause it. The nearest sewer was two hundred miles distant from every case I treated. Carpenter tells us that the Arabs of Sahara can smell a fire thirty to forty miles distant, and Humbolt says the Peruvian Indian can smell the approach of a stranger in the darkest night while yet far off, and can also tell with certainty whether it be a white, a negro or an Indian. To believe even these statements is a strain on our credulity, but to believe that either savage or civilized beings can draw into their nostrils the small end of a sewer, from a distance of two hundred miles appears to me too transcendental, or a trifle ridiculous.

What shall I say of treatment? Only this: properly treated in the local stage before it has obstructed the larynx, or corrupted the blood, no disease, no morbid process known to me in the long list of human ailments, is so speedily and effectually controlled. To obtain these results it must be treated, early and vigorously; it must be

considered a prime emergency, and its victims as those who are choking to death, or bleeding to death, or who have swallowed deadly poison. Here, as there, proper use of moments, prompt intelligent vigorous action win the day. This is the doctrine I teach the people. If they wait until blood-poisoning be far advanced, I am not responsible for life thus lost any more than if a patient were let bleed to death before a surgeon was called. I have yet to see the first instance where there was not abundant time to call medical aid before laryngeal stenosis or sepsis took place. Swelled neck is probably the first sign of absorption, and this does not usually follow until twenty-four or thirty-six hours after the initial lesion. This interval affords ample time to call the doctor. He comes, destroys the poison in the throat, the sole indication in this stage, with any therapeutic agent or combination that he prefers, and that's the end of it—that is to say, there can now be no further extension, and no obsorption, consequently there can be no laryngeal stenosis, and no fatal sepsis. On the contrary, convalescence is soon established, followed by a speedy recovery.

I doubt not there are many remedies capable of controlling diphtheria in the first stage. Eucalyptus, turpentine, mercury, carbolic acid have each yielded excellent results in different hands, according to reports published from time to time, of late years, and which I see no reason to dispute.

The microscopists also throw out a suggestion pointing to a sure and speedy method of cure. In Dr. Sternberg's work (p. 295) it is stated that boiling the membrane for fifteen minutes "kills the micrococci" rendering them innocuous. But, as it would be very bad practice to detach the membrane forcibly for the purpose of boiling it, and as boiling it in the throat must prove very inconvenient to the patient, I cannot recommend putting this suggestion into practice.

My own plan of treatment for the first stage I regard as a specific plan. It has never failed to speedily control the disease—never. Why should I discard a certainty for an uncertainty? I demand an abundant supply of fresh air in the sick-room. Medication would be mockery while the patient is enveloped in poisoned air—while the original cause (as I see it) is still in full operation. Then, too, all clinicians and pathologists agree that fresh air is the best antidote to the diphtheria poison. Ellis tells of two desperate cases, carried about, out doors, day and night, as a last resort, mouths open and facing the wind. Both recovered. Prof. Wood found that if the virulent membrane were exposed to the air it lost its virulent power. Fresh air removes the cause, and otherwise assists the the cure. Antiseptics, too, are used freely. Floors and woodwork are washed with strong solutions of carbolic acid. This is also added to whitewash applied to walls, and ceilings, and is left exposed in open vessels. In malignant outbreaks chloride of lime is also used freely. In one instance, where five lay dead, I covered the floor three inches deep with it.

Of medicines proper I use only two remedies in the local stage, nitrate of silver and chlorate of potassium. In more than one hundred tests they have never disappointed me. They never failed to control the throat lesion. Tens of thousands have used the latter, and many have used the former remedy in this malady, but so far as I know, never obtained such good results as I obtain. The difference in results is explained by the fact that I use them in stronger form and much more frequently. If I used these remedies in the weak forms that others use them or at such rare intervals, I could no longer control diphtheria in any stage. I would be still in the gall of bitterness, and the grip of uncertainty as to its successful management. Like many weak brethern, I would at the arrival of every diphtheria call be a victim of subsultory

twitches expresive of impotence and fear, which ungentle motions suggest a dual course—to feign illness, or run for the woods.

A solution of the nitrate of silver, twenty grains to a drachm of water, is applied on a camels-hair brush to the affected parts. There is no guess work, or monkeying, or simple performing of so many motions. This solution is applied as thoroughly as possible to all the affected surfaces; and to make assurance doubly sure, I paint the affected parts two or even three times over, at this first seance, for I administer the first application myself, having the future nurse watch me closely, that he or she may know how to do likewise, if it be further indicated. "Will it hurt if I accidently touch a sound part?" they ask. Not particularly, I reply; only watch what you do. Your aim is to thoroughly touch every particle of the diseased surface. The brush is not allowed to be dripping wet. The excess of the liquid is removed by touching the brush on the mouth of the bottle, before introducing it into the throat.

If there be an abundance of fresh air in the room, and if each application be thorough, few applications are required. In very malignant cases I use thirty grains, or more, to the drachm. Does this cause pain? Not a particle. You are simply touching necrotic tissue. Man's throat is not so large as that of the hippopotamus, still it has features of interest, too,—even in the healthy state it is very sensitive. Few healthy people care to have their throat or glottis fooled with more than is necessary, or even to the extent that is necessary. A woman with ulcerated larynx recently refused treatment if she could not be cured any other way than by local applications. Beyond the unpleasantness of dealing with this normal reflex, and a painful disease superadded, there is no pain in my method. Time and again small children have, voluntarily, and without fear, stepped forward and opened

their mouths to have the application made. Never once, in one hundred and fifty instances, did anyone utterly refuse treatment, as did this woman with ulcer of the larynx.

When shall the application be repeated, or how can the unprofessional tell when to repeat? Look closely at the throat now; observe the parts affected. Look in again in a few hours; if the pseudo-membrane which you see shriveled now, start up afresh there, or if it appear in a new place, touch up the affected parts. I think three applications would be about the average number required. I made but two in the last case treated, a boy fourteen years old, seen but twice, just at the end of the third day of the disease, when the neck was badly swollen, and the tonsils and posterior wall of the pharynx were full of pseudo-membrane; and again twelve hours subsequently, when the throat lesion was manifestly controlled, and the pulse had fallen fourteen beats a minute. Four applications were made to my own throat, but by one who had never before administered this treatment. The applications were not thorough. I am fully convinced that, at least in the majority of instances, where the pseudo-membrane is circumscribed and visible, and in patients previously healthy, if not in all cases, the nitrate alone, applied as I have indicated, will control diphtheria in the first stage.

But I also use in this stage a saturated solution of chlorate of potassium as a gargle. In my first report patients gargled every fifteen minutes. I now direct them to gargle every five minutes, throwing the head well back, and holding the gargle in as long as possible. To be kept up during the night, too? Yes, if it be a severe attack, or dangerously advanced. Life is cheaply bought when the price is but a few hours sleep. Sleep is often lost for a less worthy purpose. Convalescence will be established in ten or twenty hours; then they may sleep.

I said I used a saturated solution. Now, three or four drachms of potash (the exact quantity, in grains, depending on the kind of water and its temperature,) added to eight ounces of water, will make a saturated solution. If I add eight, or twelve, drachms of chlorate to eight ounces of water, the resulting solution will still be a saturated one, but of course the chlorate will not all dissolve. As already intimated, nearly all my patients were in the country, often ten or twenty miles from town, and to prevent the gargle becoming speedily exhausted, to render frequent trips to town by messengers unnecessary, and still further, to prevent any blunder on the part of unskilled nurses in mixing ingredients, it is my rule to add chlorate enough in the first instance, so that the gargle bottle may be refilled two or three times and still furnish a saturated solution. In those old enough to gargle, this gargle alone, without the nitrate of silver, used as just indicated, will control diphtheria in the first stage. The most violent case I ever attended, the most violent of one hundred and fifty, was thus controlled. The call came at midnight, the coldest night I ever experienced, to ride eleven miles into the country. When I arrived I discovered that I had no nitrate of silver with me. I kept up a pretty constant gargling with chlorate all night. Next morning the patient was convalescent, and made a speedy recovery, although I made but one visit. This Walpurgis night was referred to by me in a communication to an Eastern editor, intended to be private, but which he published without my sanction. Was not this night, and this case also, described in my canticle on diphtheria, published soon after the private squib just referred to? Yet this is the very prescription, gentlemen, which some hospital steward cites as being of the erroneous kind! Perhaps he thinks it an error, nay, a grievous wrong, to interfere with the established order of things, the old-time mor-

tality rates, for instance; or did he get soup and solutions confounded?

In the first stage no special diet is necessary. Tea, coffee, milk or water will suffice for twenty-four hours, when if proper treatment have been administered convalescence will be manifest.

The second stage has two indications; that of the first, to destroy the poison in the throat—for the throat is still every moment sending new poison to the blood—and to support the system; "the disease being of, perhaps, more lowering character than any other with which we are acquainted." According to the severity of the case, five or ten drops of the tincture of chloride of iron, and from half a grain to one grain of quinine is administered to adults every two hours. Six or eight grains chlorate of potassa is also administered every two hours in aqueous solution. These two preparations are administered alternate hours, by day, and with some degree of regularity during the night, also, until convalescense be established.

I have not changed my belief that in the septic stage patients can hardly be over-fed or over-stimulated; that many die for want of food and stimulants to tide them over. I regard the popular notion that sick people do not require much nutriment, especially those who manifest febrile action, as highly erroneous, and I believe that this notion carried into practice frequently contributes to a fatal issue as much as the disease itself. In this stage, I aim to get as much concentrated nourishment into the patient as can be digested, giving a little at a time, and often; and I require an accurate account kept of the quantity consumed from visit to visit. As to stimulants I agree with Solomon, to "give strong drink to him that is ready to perish." I am not sure that I could save any in the notable and overwhelming prostration of the septic stage if it were not for alcoholic stimulants. Here old

port, toddy, whiskey sling, grog, punch, egg-nog, do their best work for the children of men. They are stimulants, anti-septics, tonics. They unlock the reserve vital power, the body-bank upon which we draw in sickness. They keep the heart beating, the blood circulating, the kidneys (the chief eliminators of this poison) active, and they keep hope alive—hope so helpful to heal in all human ailments. I also keep patients recumbent, and as still as possible. I believe that in all cases this retards the obsorption of the poison, and in the feebler ones prevents heart stoppage. Dry heat to the extremities throughout the second stage also materially assists in affecting a cure. In the majority of instances, a laxative is required at the start.

Lastly, besides the ability to diagnose the malady, besides an intelligent conception of the nature of the morbid process, of its stages, of the single indication of the first stage, and the two indications of the second, of the remedies best calculated to meet each of these indications —to quote a sentiment applied to another dread disorder, "the successful treatment of diphtheria demands a personal devotion and attention involving complete abnegation of self." This is more especially true of the second stage. Called in the first stage to uncomplicated cases no matter how severe, if the patients were previously healthy, there should be no mortality whatever. Called in the second stage, if the patients be not in articulo mortis, one may reduce the mortality—at least in country practice, to ten or fifteen per cent.

These, gentlemen, are my views and experiences which I have already invited your committee to investigate at my expense. They are, in part. the result of sacrifices that gold could not have induced me to make. How many sleepless nights they recall! How many winter midnights abroad on the blizzard-smitten prairie, ahun-

gered and cold, when the storm-fiend raged, or when the enveloping temperature was so low that our instruments could not indicate it! Yet

"What good gift have my brethren, but it came from search, and strife, and loving sacrifice?"

CHOLERA, IN RELATION TO THE PUBLIC HEALTH OF ST. PAUL.

BY TALBOT JONES, M. D.

Since the year 1830, six distinct epidemics of Asiatic cholera have prevailed in Europe, and in every instance they have made the circuit of the globe inhabited by civilized nations. It is a matter of history that the United States has never escaped when Europe has been visited—we, too, having had six epidemics in the past fifty-five years. The secular and medical press during the past year has teemed with accounts of the ravages of this dreaded disease in France, Spain and Italy. Indeed, so bewildering is this mass of new literature that, at first sight, it seems impossible to decide whether we know anything, everything or nothing about Asiatic cholera. This epidemic is again in Europe, and if past experience, during six epidemics, goes for aught, we in this country may expect to be brought face to face with the unwelcome visitor this summer. The daily bulletins in the newspapers and medical journals, the increased activity of all State and local Boards of Health, the proclamation by the President last July, and the special fund placed by Congress at his disposal to be used in case of an outbreak, has all tended to arouse even the most indifferent to a sense of our impending danger.

Nor is this cholera agitation confined to any State or locality. Even in this city the matter has received attention. Some months since a committee of the Ramsey County Medical Society took steps in view of a possible advent of the scourge among us, and drew up a report which was presented to the Common Council, wherein they made various suggestions of more or less importance. In the preparation of this paper, I wish to disclaim any desire to arouse a cholera agitation at the present time, but I think we need to have public sentiment aroused upon this subject in order that preparation may be made to meet and successfully manage the disease—for few sanitary reforms go in advance of public sentiment. If our State and local Boards of Health will put forth renewed efforts for the promotion of public health, even though we should escape a cholera epidemic, the general sickness rate in this city will be greatly diminished and the mortality proportionately lowered.

Thus it is shown by statistics that every cholera agitation in New York city effects reforms in tenement houses, sanitation, unhealthy trades, etc., in spite of the protest of citizens, which diminishes permanently the sickness and death-rate of the poor fully five per cent.; and one of the most prominent authorities there declares as a result of these sanitary cleansings that if they could always live in the immediate apprehension of an epidemic of cholera, New York would be the healthiest city in the world!

It thus becomes apparent that great epidemics are by no means unmitigated evils. While there is little to be feared in this city from a cholera epidemic, these facts should not be forgotten: That St. Paul is now rather densely populated, is the natural gateway to the Northwest of a large number of immigrants coming directly from ports in Europe, and is also a place of landing for steamboats from the South. It is also a somewhat significant fact that on at least two different occasions in the

past a few cases of cholera have appeared here when the disease was prevailing elsewhere in the country.

But, before pursuing this part of the subject, let us analyze the principal features of the cholera question as it presents itself to-day. As stated before, the literature of the subject is something immense, but with all that has been written there are certain limitations of our knowledge regarding the disease. The frequent and discursive contributions on the subject are generally read by the inquiring reader with fresh expectation of enlightenment, though usually with disappointment, as the cholera problem is very obscure.

Our most erudite sanitarians and eminent pathologists teach us simply this, that cholera is communicable and portable, and that it affects filthy localities and people. Of the epidemic character of the disease there can, of course, be no reasonable doubt. It is also a disease which involves in its causation a specific agent capable, under favorable conditions, either within or without the body, of indefinite self-multiplication.

The causative factors concerned in its production are very complex. What is cholera?

A vast accumulation of facts seem to render it highly probable that there is a specific germ—a protomycete—or minute organism which is the essence of the disease, if not the disease itself. It is generally agreed that this germ requires a special nidus for its development, for as it leaves the person of the sick, and for some time subsequently, it possesses no toxic power. This supposed cause or germ of cholera, the so-called bacillus, therefore, seems to require an intermediate condition of preparation to render it active, and this conditton has been called by some the "epidemic constitution," which, however, may mean only an intensity of filth.

All attempts before the time of Dr. Koch to isolate, by selection and cultivation, the special cause or microbe of

the disease, had failed. This observer, however, states that he has positively discovered the true cause of cholera, which consists essentially of a comma-shaped bacillus, which is found in the bodies of persons affected with this disease, and never in the bodies of persons in health, or those suffering from any other form of disease. This comma-bacillus has been seen in the internal organs in nine autopsies, and in thirty-four examinations of the dejecta. It has also been cultivated and successfully inoculated in dogs, rabbits, guinea pigs and other animals, many of which died speedily with all the symptoms of cholera. Koch and the other advocates of the parasitic origin of the disease lay special stress upon the effects produced by inoculating animals with the pure cultures of the cholera-bacillus. And it should be borne in mind that the negative results of inoculation do not constitute positive evidence against the parasitic doctrine, whereas successful results, however few in number, constitute absolute proof of the doctrine.

The tendency of medical thought at present is strongly towards the acceptance of Koch's theory, because the logical evidence in its favor is almost if not quite conclusive. Again, reasoning by analogy, no explanation harmonizes so satisfactorily with the facts relating to the transportation, diffusion, and the duration of epidemic invasions; and secondly, as other infectious diseases are due to micro-organisms, it is not only fair but logical to assume that cholera arises from similar causative agents. The pathogenic action of these products of cultivation is stated to be due to a zymosis, to an unstable albuminoid compound. They are endowed with the faculty of motion, and under the microscope are seen to dart with great velocity over the field of vision. They multiply with exceeding rapidity, and thrive best in an alkaline solution—an acid medium quickly sterilizing them. When dried for three hours they cease to live.

Koch subsequently had ample opportunities to confirm and repeat his previous discovery, by visiting Egypt, the East Indies and France, where cholera was prevailing. He made an additional one hundred post mortem examinations, and invariably discovered the comma-bacillus. Dr. Brewer states that the favorite habitat of this bacillus is in the region of the coecum. They penetrate the epithelium of the tubular glands, invade the sub-mucous tissue and even the muscular layer of the intestine. The epithelium is shed, an extraordinary transudation of serum takes place, constituting with the epithelial shreds suspended in it the notorious rice-water dejecta. Koch examined the contents of the intestines of a great number of persons suffering from other intestinal disorders, including cholera morbus, but in not a single instance was the bacillus met with.

The cholera germ has an extraordinary tenacity of life, and being portable may be conveyed from place to place in clothing, baggage, old rags, food, water, or animate or inanimate substances. As to whether or not it may be conveyed by the air depends largely upon the force of the wind, the hygrometric state of the atmosphere, and also upon the condition of the germ itself, as regards moisture and dryness—its toxic power, as before stated, being destroyed in three hours if the germ be dry. The poison never is transported faster than man himself travels.

From the constant occurrence, then, of this comma-bacillus in the dejections of cholera patients, and its invariable absence in healthy persons, or those sick from any other disease than the one under consideration, Koch concludes, and with great justice, that this microbe and cholera stand in relation of cause and effect, and that the bacillus is specific and individual in character.

When Koch in the fullness of time gave to the world his brilliant discovery a perfect storm of opposition was raised, the echoes of which still ring in our ears. It is

entirely beyond the scope of this paper to explain the various objections thus far raised against this theory, and only one or two will be alluded to.

Dr. Frank H. Hamilton, of New York, rejects the alleged discovery, and declares the bacillus theory defective, "in that it had not been shown that the introduction of this germ into the animal system would produce cholera, and that the inoculations of Koch himself, practiced upon the lower animals, had been barren of results."

Since Dr. Hamilton's paper appeared, Koch *has* succeeded in producing typical cholera in the dog, guinea pig and other animals, and his experiments have been confirmed and repeated by Dr. Rudolph Emmerich of Munich, and by Nicati and Reitsch of Marseilles, all of whom have successfully inoculated the lower order of animals. What for a time appeared to be the most serious blow to the theory of a comma-bacillus origin of cholera was the announcement of Finckler and Prior, at the meeting of the German Naturalists, that they had discovered a parasite in cholera-morbus identical with that of Asiatic cholera; but Koch in a later communication completely refuted the conclusions arrived at by these observers.

Finally, the experiments performed by Dr. Klein, an English physician, on his own person, with misguided zeal I think, but with the scientific instinct, wherein he swallowed some of the bacilli of cholera, it may be observed that such experiments possess no scientific value, and even seem puerile, since it is held by all authorities that an acid will destroy the microbe. This experimenter of course escaped unharmed as the acid gastric juice destroyed the parasites.

The last contribution is the rejoinder of Koch himself, who in an able article meets and refutes every objection, thus far raised against his theory. I think since this last article we must accept, provisionally, the parasitic origin of cholera, as Koch has certainly thrown the burden of

proof upon his opponents. I feel like apologizing for speaking at such length upon the probable cause of cholera; but this is inevitable in the study of any disease.

To the scientific student the recognition of pathological truths is sufficiently attractive, but to the practical physician their interest lies not in their abstract nature alone, but chiefly in their successful application to the cure of disease. It seems probable that every person in the cholera atmosphere receives more or less of the poison into the system, though but a small proportion of those exposed take the disease. One's system must be in a suitable condition to contract it. One attack of cholera confers no immunity from a subsequent one. Assuming that the disease is due to a specific organism or microbe, the question of the most potent agents for their destruction—the so called germicides—becomes an interesting one. Alum kills them in a solution of 1 per cent, camphor 1 to 300; carbolic acid 1 to 400; oil of peppermint 1 to 2000; sulphate of copper 1 to 2500; quinine 1 to 5000; and the bi-chloride of mercury 1 to 100,000—the last being the most powerful of all germicides.

The character of the soil best adapted to the nurture of cholera germs, because retentive of surface moisture, is alluvium, light and porous, resting on an impervious clay subsoil. Its spread is much promoted by decaying animal and vegetable matters, and by a hot, moist and stagnant state of the atmosphere. A rainfall is favorable to its spread. The cholera poison is taken into the system by the mouth and stomach. Hygienic influences affecting the system are highly important; the system should be kept at par, debauches of all kinds avoided, and moderation in eating and drinking rigidly adhered to. Habits of dissipation invite an attack, a statement to which too much emphasis cannot be given. Recent experience in Paris and Naples has shown the disease to have commenced among the poorest and most unsanitary parts of

the population, and one authority furnishes statistics that of the whole number admitted to the hospitals fully sixty per cent. were known to be addicted to habits of dissipation.

With regard to the important subject, the prevention of cholera, it naturally divides itself under two heads: First, national; second, local. Of the former nothing more will be said than that there is a new health bill before Congress, which provides for the organization of a National Board of Health, to be composed of one Representative from each existing State Board, advises the appointment and maintenance of medical officers of health at foreign ports from which cholera may be brought, whose duty it shall be to inspect vessels bound to our ports, and give the requisite information as to the existence or appearance of that disease, to be constituted authority in his country; a close alliance of our health authorities with those of the Dominion of Canada; the establishment and support of an inspection and quarantine service, like that inaugurated by the National Board of Health; aid of local boards by the general government in the appropriation of the necessary funds; the removal of unsanitary conditions favorable to the development of cholera; isolation of first cases and destruction of infected materials; isolation of infected localities and towns, and intercourse with other towns under sanitary supervision. Though this bill embodies a number of necessary precautions, it seems to lack continuity and coherence, in that it does not state specifically what the duties of the general government are with regard to embarcation, transit and the landing of the scourge on our shores, and the general government alone can regulate travel and traffic on the great ocean highways.

As regards local preventive measures, there should in the first place be a hearty co-operation between our State and local Boards of Health. It is almost universally held

that water is the most important medium of conveying choleraic infection—a fact upon which it were well to lay special stress, since it is of immense practical importance, and the truth should therefore be widely known. There is reason to believe that most of the wells, and many of the cisterns in this city contain water unfit for consumption. Indeed, the analyses of water from thirty wells in different sections of the city, made within the past year by a competent chemist, Professor Weitbrecht, the result indicates beyond a doubt the impurity of the water.

Simon has shown that in 1866 the number of cases of cholera among the inhabitants who used the bad water of the East London Water Company, ranged from 63 to 111 per 10,000 people, while in that part of the same city supplied by pure water the mortality was from 2 to 12 per 10,000.

In the city of Genoa during last summer's epidemic, 90 per cent. of all the deaths occurred among those inhabitants who used water supplied by the canal Nicolai, which furnishes about 40 per cent. of the city's water. The houses supplied with this water furnished numerous victims, whereas those supplied from other sources escaped. It was only when the canal water was entirely cut off from the city that the epidemic disappeared.

In another city in Italy which suffered an immense mortality from this epidemic, it was shown that the linen of some persons, who had come from Marseilles, where cholera was prevailing, had been washed in a little river which furnished water to that portion of the town. These are but examples, though citations could be multiplied.

The lake water which is furnished to a large proportion of the residents of St. Paul is generally agreed to be pure, since so far as is known no case of disease of any kind has been traceable to its use.

The practical application of the foregoing facts is this: Should a case of cholera appear in this city every citizen

should be required either to use lake water exclusively, or thoroughly boil all well or cistern water before drinking it. Boiled water is innocuous. As a local preventive measure this is entitled to the first place in importance, for it is idle to expect to prevent or restrict cholera in a city whose drinking water is contaminated.

All the world sang pæans of praise to the heroism of the king of Italy when, last summer, disregarding all personal danger he visited his subjects in the plague-stricken city of Genoa. But the world probably does not know that the king took extraordinary precautions to escape the disease. Every ounce of food and water that passed the royal lips was bottled and hermetically sealed in Rome, and conveyed thence daily to Genoa for his consumption. This precaution was taken at the urgent request of the king's medical attendants, and is now alluded to only to emphasize the fact that the microbe or poison of cholera is generally received into one's system by the mouth and stomach, and in the food and water which acts as the medium.

It is at present a mooted question whether or not the introduction of the disease can be prevented by a rigid quarantine and suspension of intercourse with places in which the disease prevails, but as the disease is probably due to a miasm or organism which is portable, that is, can be transported from place to place in merchandise, clothing, baggage, etc., the necessity for adopting some measures of protection can scarcely be questioned. Newly arrived immigrants should be under the surveillance of the health authorities.

The various causes affecting public health, as deficient sewerage, cess-pools, accumulations of filth of every description, over-crowded and unventilated dwellings, underground habitations, may, to a great extent, be removed by efficient sanitary measures. It is not enough to merely fumigate and disinfect dwellings where cholera exists; to

be thorough, the removal of persons, in districts where owing to auxiliary causes the epidemic is especially rife, should be rigidly enforced by municipal authority. In those cities which in the past have been visited by cholera, it is generally agreed that by far the most efficient means of combatting it consisted in house to house visitations, under an organized corps of physicians. Public announcements by hand bills, articles in the newspapers, messages from the pulpit, platform and through secret societies, fail to accomplish the object. One or two domiciliary visits daily, at every house within the limits of the epidemic, is the most efficient plan. All ponds in the city containing surface water should be drained or filled with earth. A regular and systematic flushing of the sewers should be rigidly carried out.

The natural habitat of the cholera germ is in dampness, heat and darkness, conditions pre-eminently present in sewers. Conversely, light, cold and dryness are not only inimical to their development, but actually sterilize them. Stagnant pools, the favorite breeding-place of all infectious diseases, and filth and putrifying animal and vegetable matter in the streets, which is the very hot-bed for the germ, should be removed. To the filthy condition of the streets of Toulon and Naples, the late fearful mortality from cholera must be largely ascribed.

If cholera appears, first cases should be isolated and placed under the most favorable hygienic conditions, and the entire premises properly disinfected. We learn that this cholera agitation in the East has produced a widespread fear of the expected disease and that nervous persons are in a panicky condition of mind, and families are leaving the cities much earlier than usual.

While we believe it to be not only the wisest plan, but our bounden duty to urge as strongly as possible the need of setting on foot in this city certain preventive measures, it should be understood, that the probability of any but

a few sporadic cases appearing in St. Paul this summer, is very remote indeed. It should be remembered that cholera is now in the third year of its travels from India, and its virulence is waning.

While it is true that, owing to the topography of this city, its adaptability for drainage, the dryness of the climate, its altitude and other physical advantages, there is every reason to believe, that should an epidemic visit us, it would be mild and of short duration, yet the health authorities are fully alive to a possible appearance and are narrowly watching every source of information, concerning the progress of the disease in Europe and have already matured plans to be at once adopted when the first case of cholera shall have been reported in the United States.

PERNICIOUS EFFECTS OF TOBACCO.

BY P. A. HEITZ, M. D.

The influence of tobacco on the health of individuals and communities has, of late, become so manifest that it has had the serious attention of the best minds of the profession, and demands of journalists a passing notice, notwithstanding many old and young fogies of the fraternity may not admire any allusion to the subject.

Professor Virchow, the world-renowned teacher of pathology, in a recent lecture before the workingmen of Berlin upon the influence of tobacco, is reported to have assumed that tobacco smoking and chewing is always injurious, that its excessive use is pernicious and full of evil consequences, that the habit of smoking after meals instead of promoting digestion retards it, checking the

process of nutrition both in primary and secondary assimilation; and that its excessive use or abuse claims the serious attention of municipal authorities and the restriction of it under proper laws.

The constant use, to say nothing of the extreme abuse of the narcotic, must be apparent to all, and is a parallel to the opium eating of the East, demanding the same condemnation of an intelligent profession. The extent of its abuse is clear when we consider the enormous amount consumed, by which its pernicious influence may also be quadrated. In 1883 the consumption of tobacco is stated to be 49,837,560 pounds—about a pound, on an average, to every man, woman and child in the United States. We may, without fear of error, assume that a corresponding amount of its consumption is used in European countries.

Its popularity and prevalence has, of late years, been very much on the increase, mostly because the medical profession are using it as much as the non-professional, both adult and the youth, of our country, and it certainly is a habit that will seriously affect the nation unless proper restrictions be placed upon it.

We were for some years past of the general opinion that its moderate use promoted digestion and the elimination of excrementitious matter. We have changed our views of late, and feel quite free to express the firm opinion that it is very injurious; indeed, we cannot deem its moderate use otherwise than baneful. Even the smoke of tobacco contains nicotia, an efficient sedative to the action of the heart and circulatory system; a powerful poison acting by relaxation, and causing death by syncope.

Enlightened clinical observations and chemico-physiological investigations have determined its action and given it a place among the most potent narcotic poisons, producing the most serious indications of depression, as vomiting, purging, a distressing sense of sinking at the

pit of the stomach, loss of vision, giddiness, relaxation of the muscular and circulatory systems, cold sweats, convulsions, paralysis, prostration, syncope, and death. We have the highest authority for its producing fatty degeneration and functional derangements of the heart; of the latter we have almost daily evidences.

We can only add that social and political economy demand a proper restriction of its abuse, notwithstanding the immense financial importance it may have attained as an article of commerce and revenue. There is enough poison in a meerschaum pipe to kill forty cats. I have seen an experiment made on a cat with the oil of tobacco, and one drop placed on its tongue produced death in about ten minutes.

NECROLOGY.

W. W. MAYO, M. D., CHAIRMAN.

But one death has occured in the past year amongst the members of the Society.

DR. WINTHROP MILLER.

Winthrop Miller was born in Dorchester, Mass., Dec. 22, 1850, and died at Minneapolis, Oct. 14, 1884. He fitted for college at the Chauncy Hall School in Boston, entering Harvard in 1869, and graduating with credit in 1873. He graduated from the Harvard Medical School in 1876. He was interne at the Massachusetts General Hospital during the following year. While there he won the love and esteem of his associates and patients, who remember him to-day with much affection.

He practiced in Dorchester with his father, Dr. E. D. Miller for some time, and while his father was abroad, took charge of his patients. Many assured him of their intention to employ him constantly, but having always been a great pet in the neighborhood, the boyish names did not harmonize with his feeling of professional dignity, and he preferred to make a home among strangers, much to the regret of his family and friends, and nothwithstanding the great inducements his father offered him to remain at home. He went to Minneapolis in Nov. 1877, where he settled permanently,

He was married in Jan. 1880, to Ellen Louise Tuttle, of Dorchester. He leaves two children: Louise Darwin Miller, 4 years; and Winthrop Miller, Jr., 1 year 2 months.

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THE NEXT MEETING OF THE SOCIETY

WILL BE HELD AT

MINNEAPOLIS,

At 10 o'clock A. M., on the THIRD THURSDAY OF JUNE, 1886.

The attention of Chairmen of Departments is particularly directed to the recent changes in Article VII of the Constitution.

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THIS INSTITUTION is centrally located, in a quiet part of the city, and is in the center of large airy grounds. It is connected with all parts of the city by street cars, and has all modern appliances used in first-class hospitals. Its staff of Surgeons and Physicians are the most eminent men in the medical profession in the city.

It is under the capable management of the Sisters of St. Joseph, who have gained for themselves such high encomiums as efficient and careful nurses.

For any further particulars address all communications to

MOTHER SUPERIOR, St. Joseph's Hospital,

Exchange Street,

ST. PAUL, MINN.

MURDOCK'S LIQUID FOOD.

Its value in Surgical Cases.

Extract from the New England *Medical Monthly*, July 15, 1885.

Operation performed by Dr. Wm. C. Wiles, the editor, in presence of Drs. Henry, Porter, Berry, De La Mater, Hill, Young and Elliott; the subject sixty-two years old; married; no children.

Examination by himself, also Dr. P. G. Thomas, of New York, showed she had a tumor, and to be simply a cyst of the left ovary.

For two weeks upon preparatory treatment, consisting of general tonics combined with Murdock's Liquid Food, and for three days prior to the operation, of liquid nourishment with Murdock's Liquid Food.

Immediately after the operation, February 23, the temperature was 98°, pulse 94; the patient suffered very little from the shock, and rallied well and favorably.

At 6 P. M., temperature 99.1°, pulse 96. I gave a hypodermic injection of one-fourth of a grain of morphia and an enema of one ounce of Murdock's Liquid Food. February 24, 1 A. M., another enema. From this time until 3:30 A. M. she rested quietly; 6 A. M., temperature 100°, pulse 90; 3 P. M., temperature 100.5°, pulse 114; passed a comfortable day; took several enemata of Murdock's Liquid Food and one of milk brandy, *which not being well retained was abandoned*, and from this time out nothing but Murdock's Liquid Food was used.

February 25, rested splendidly all night.

February 26, 6 A. M., pulse 98, temperature 98.2°; feels first-rate, and clamors loudly for food; no soreness, no tympanitis; continued Liquid Food and beef peptonoids, in teaspoonful doses, at intervals during the forenoon. At noon two oysters and a small plate of toast. At 6 P. M., temperature 100.2°, pulse 98.

February 7, temperature 100°, pulse 90. Has taken the usual enemata of Murdock's, and also small quantities of Murdock's, broth, brandy and peptonoids.

February 8, temperature 99.5°, pulse 86. March 1, temperature 99°, pulse 86. March 2, temperature 98.7°, pulse 78.

March 3, the eighth day from the operation, all the sutures were removed, and the wound was found to have healed by first intention.

On the fourteenth day she sat up in bed. On the twenty-first, when my last visit was made, she went into the dining room to dinner.

It will be noticed that the nourishment which the patient took for the first three days after the operation consisted entirely of enemata of Murdock's Liquid Food, and also that for the first week it was the principal diet. I consider that it rendered me the most valuable service in sustaining life in this case, as it has in many others in which I have used it.

We are receiving letters monthly from surgeons and physicians of the benefit of Murdock's Liquid Food is to them in surgical cases, they all meeting with the same results as Dr. Wiles. Our Free Surgical Hospital is open to the profession for their own private cases, or we will care for any case you may send us.

7 SNOW HILL, LONDON, July 12, 1885.

To M. DOLAN, M. D.,

Editor of Provincial Medical Journal of England:

DEAR SIR:—My attention has been drawn to an article in your Journal of July, 1885, on Murdock's Liquid Food.

I beg to offer a few facts to advise why Dr. Stutzer, Director of the Imperial Chemical Laboratory for Rhenish Prussia, gave his opinion in the language he used, and gave his preference to beef peptonoids and beef extracts.

The fact that my Liquid Food is the only raw condensed food, or food extract, in the world, shows why it was not acceptable to him, in smell or taste. *We rest its value on results obtained when all other treatments of medicines, extracts and foods fail.*

An extract cannot possess the properties of common food, or common food of condensed food, or condensed food of raw condensed food, free from insoluble matter, that can be retained by the stomach when so weak as to refuse water, shows its value over all other foods and extracts that smell or taste or look better, to any or all parties, as different parties taste differs daily. Liquid Food carries the flavor of the articles from which it is made, and can be altered every time it is taken, if desired. Any patient after taking it a few times, who dislikes the flavor, will grow to like it, *especially when they find they are growing better daily by its use. Show me any and all other prepara-*